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Superfund Remedial Design and Remedial Action Guidance (Revised)

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Superfund Remedial Design and Remedial Action Guidance

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WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

9355.0-4A

SUPERFUND REMEDIAL DESIGN AND REMEDIAL ACTION GUIDANCE

The Superfund Remedial Design and Remedial Action Guidance was first issued in February 1985, by the Environmental Protection Agency's (EPA) Office of Emergency and Remedial Response (Directive 9335.0-4). This document provides assistance to EPA, States, U.S. Army Corps of Engineers, and private parties who plan, administer and manage remedial design (RD) and remedial action (RA) projects to assure RD and RA projects are performed consistently and expeditiously.

This revised June 1986 version of the Superfund RD and RA Guidance (Directive 9335.04-A) is being issued to reflect program changes that have occurred since the document was first issued. Sections of this document that have significant changes are listed below:

Section 2.4.5	Major Design Changes.
Section 3.3.3	Contingency Funds for Change Orders and Claims-State Lead Remedial Action.
Section 3.4.2	Prefinal Inspection.
Section 3.4.3	Final Inspection and Certification.
Section 3.5.2	Operational and Maintenance.
Appendix B.1.6	Selection of RCRA Facilities.
References	

The February 1985 version of this document (9355.0-4) is superseded by the June 1986 version (9335.0-4A). This document will be updated as necessary.

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16. ABSTRACT

This guidance document has been developed to assist agencies and parties who plan, administer, and manage remedial design (RD) and remedial action (RA) at Superfund sites. The guidance document has been developed primarily for use by remedial project managers, state project officers, U.S. Army Corps of Engineers personnel and responsible parties. The document is organized to reflect the general sequence of events that occurs prior to, during, and after remedial design and remedial action at a Superfund site.

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June 1986

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1. INTRODUCTION

1.1 Purpose of the Guidance Document

This guidance document has been developed to assist agencies and parties who plan, administer, and manage remedial design (RD) and remedial action (RA) at Superfund sites. The guidance document pertains to Fund-financed RD/RA (i.e., Federal lead and State lead) and responsible party RD/RA, and provides procedural guidance to be followed in order to ensure that RD/RA is performed properly, consistently, and expeditiously.

The guidance document has been developed primarily for use by:

- Environmental Protection Agency Remedial Project Managers (EPA RPM)
- State Project Officers
- U.S. Army Corps of Engineers (USACE) personnel
- Responsible parties.

Exhibit 1-1 highlights the focus of the document within the context and sequence of activities required to complete an entire remedial response.

1.2 Overview of the Guidance Document

This guidance document has been organized to reflect the general sequence of events that occurs prior to, during, and after remedial design and remedial action at a Superfund site. Remedial design activities are presented in Chapter 2, and remedial action activities are presented in

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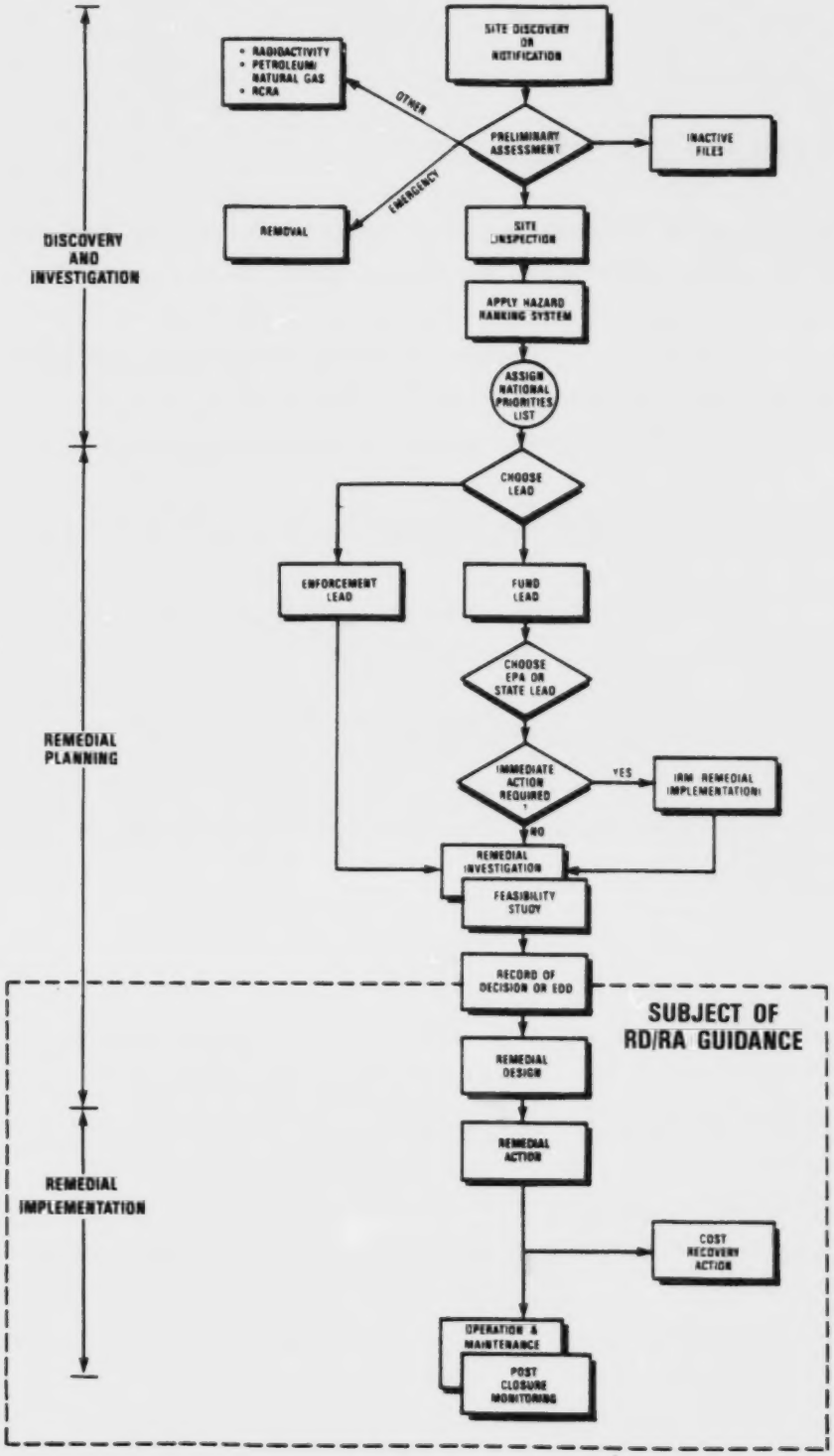
EXHIBIT 1-1
REMEDIAL PROCESS



Chapter 3. The majority of both chapters pertains to Fund-financed and responsible party projects, however, some sections apply only to Fund-financed projects and are noted accordingly. Common information is consolidated for discussion, and where necessary separate subsections are provided for Federal lead, State lead, and responsible party RD/RA. Additional guidance on oversight of responsible party RD/RA activities will be provided by EPA in the future.

The discussion on responsible party RD/RA pertains only to those Superfund sites where EPA has entered into a settlement agreement with the responsible party(ies), and no trust fund monies are involved in the RD/RA. If trust fund monies are involved, different procedures to be followed will be provided in the future by EPA.

RD/RA conducted by other Federal agencies is not addressed directly in this document. The forthcoming Federal Facilities Program Manual will tailor the information in this document to address Federal Agency RD/RA activities.

2. REMEDIAL DESIGN

2.1 Architect/Engineer Selection Activities

Activities involved in selecting an architect/engineer (A/E) firm for remedial design will be dependent on the lead party. A/E selection activities pertaining to Fund-financed remedial design are discussed below.

2.1.1 Federal Lead Remedial Design

Exhibit 2-1 diagrams the Federal lead remedial design process. In order to expedite the design phase, A/E selection activities may be initiated prior to Record-of-Decision (ROD) approval if deemed appropriate by the EPA RPM and EPA headquarters (HQ). The EPA Regional office will issue a work assignment consistent with the standing Interagency Agreement (IAG) to USACE Missouri River Division (MRD) to initiate Phase I design activities based on the draft feasibility study (FS). The EPA RPM will forward copies of the executed work assignment to EPA HQ and USACE HQ.

The map in Exhibit 2-2 shows the USACE Regional assignments for Superfund Projects. Under MRD supervision, the appropriate USACE Design District (i.e. Kansas City or Omaha) will perform the following Phase I design activities to retain an A/E firm for the engineering design:

- Synopsize requirements in Commerce Business Daily (CBD)
- Develop A/E pre-selection list
- Contact A/E firms on the pre-selection list to ascertain interest in project

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EXHIBIT 2-1
FEDERAL LEAD REMEDIAL DESIGN PROCESS

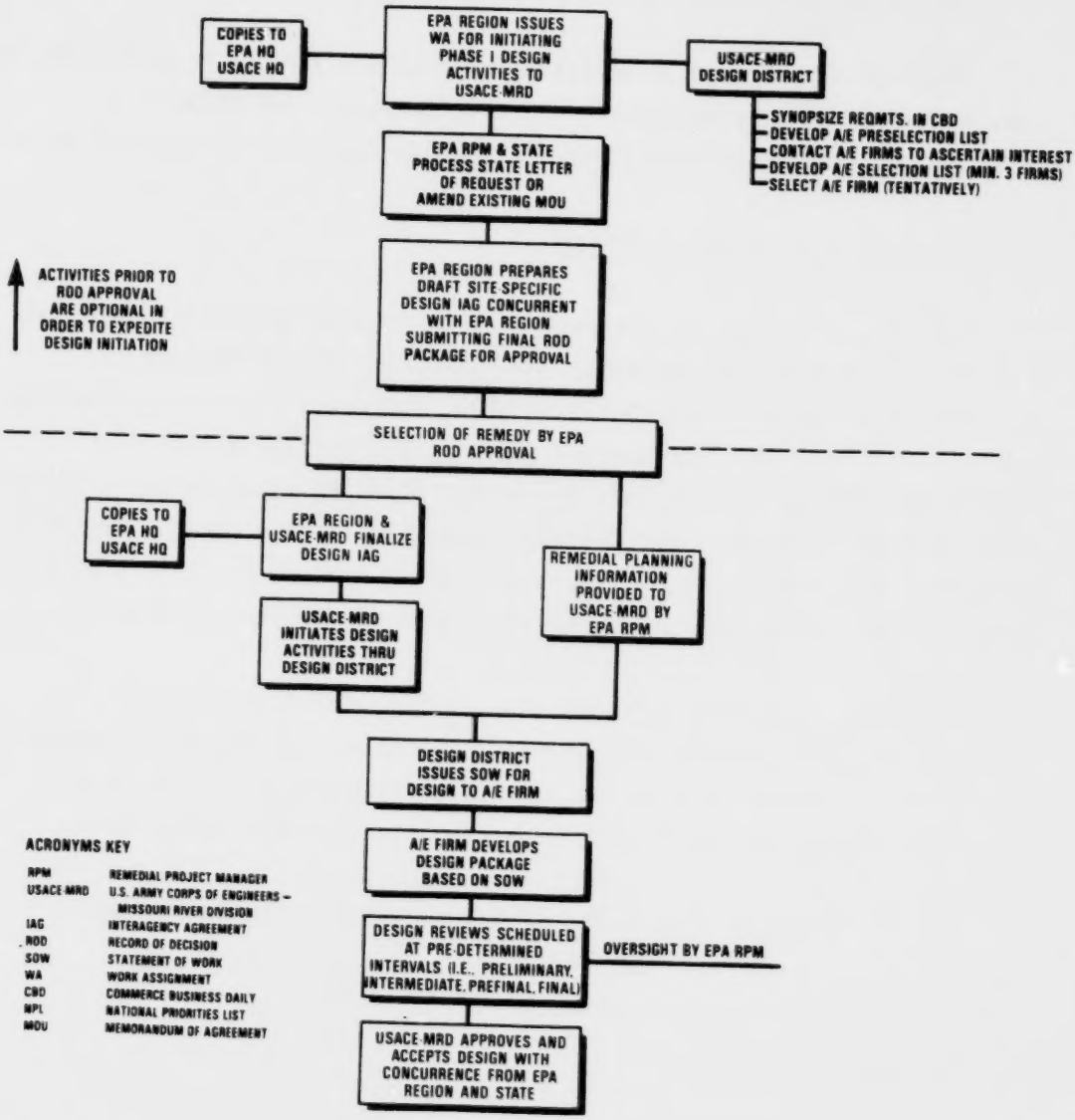

COPIES TO EPA HQ USACE HQ
EPA REGION ISSUES WA FOR INITIATING PHASE I DESIGN ACTIVITIES TO USACE-MRD
USACE-MRD DESIGN DISTRICT
SYNOPSIZE REQMTS. IN CBD
DEVELOP A/E PRESELECTION LIST
CONTACT A/E FIRMS TO ASCERTAIN INTEREST
DEVELOP A/E SELECTION LIST (MIN. 3 FIRMS)
SELECT A/E FIRM (TENTATIVELY)
EPA RPM & STATE PROCESS STATE LETTER OF REQUEST OR AMEND EXISTING MOU
ACTIVITIES PRIOR TO ROD APPROVAL ARE OPTIONAL IN ORDER TO EXPEDITE DESIGN INITIATION
EPA REGION PREPARES DRAFT SITE SPECIFIC DESIGN IAG CONCURRENT WITH EPA REGION SUBMITTING FINAL ROD PACKAGE FOR APPROVAL
SELECTION OF REMEDY BY EPA ROD APPROVAL
COPIES TO EPA HQ USACE HQ
EPA REGION & USACE-MRD FINALIZE DESIGN IAG
REMEDIAL PLANNING INFORMATION PROVIDED TO USACE-MRD BY EPA RPM
USACE-MRD INITIATES DESIGN ACTIVITIES THRU DESIGN DISTRICT
DESIGN DISTRICT ISSUES SOW FOR DESIGN TO A/E FIRM
A/E FIRM DEVELOPS DESIGN PACKAGE BASED ON SOW
DESIGN REVIEWS SCHEDULED AT PRE-DETERMINED INTERVALS (I.E., PRELIMINARY, INTERMEDIATE, PREFINAL, FINAL)
OVERSIGHT BY EPA RPM
USACE-MRD APPROVES AND ACCEPTS DESIGN WITH CONCURRENCE FROM EPA REGION AND STATE
ACRONYMS KEY
RPM REMEDIAL PROJECT MANAGER
USACE-MRD U.S. ARMY CORPS OF ENGINEERS – MISSOURI RIVER DIVISION
IAG INTERAGENCY AGREEMENT
ROD RECORD OF DECISION
SOW STATEMENT OF WORK
WA WORK ASSIGNMENT
CBD COMMERCE BUSINESS DAILY
NPL NATIONAL PRIORITIES LIST
MOU MEMORANDUM OF AGREEMENT

EXHIBIT 2-2
USACE REGIONAL ASSIGNMENTS FOR SUPERFUND PROJECTS

- Develop A/E selection list (at least 3 firms)

- Select A/E firm (internal tentative selection only).

These activities will take approximately 10 weeks to complete. Results and progress will be coordinated by the USACE-MRD Design District with the EPA RPM.

The tentative A/E selection will not be finalized by EPA, and no further action will be taken by USACE, until the ROD is approved and USACE has determined that the A/E is qualified to design the approved remedy. A sample standing IAG and Phase I design work assignment are included in Appendix A (Sample No. 1).

The EPA Region, with concurrence from EPA HQ, may request the USACE to use one of the EPA remedial planning contractors as the A/E firm for RD in limited situations. These situations could include:

- Projects with a low RD cost ($50,000 - $100,000)

- Projects where it is necessary to expedite the design phase and RA initiation.

2.1.2 State Lead Remedial Design

In order to expedite the design phase, EPA encourages States to retain the same A/E firm for RD and subsequent RA support activities that provided services for the RI/FS. To accomplish this, EPA recommends that the subagreement with the A/E firm contain an option for RD and RA support activities. A class deviation from limited requirements of 40 CFR 33 has been approved by EPA Grants Administration Division to allow States to retain the same A/E firm for subsequent activities if the option approach was not used. In most cases the State will have an A/E firm available for design activities, and no special A/E selection activities will be

required. The State officials and the RPM should refer to the following EPA guidance documents for specific information and procedures:

- State Participation in the Superfund Program, Volume I, February 1984 as amended (hereafter referred to as the State Manual, Volume I)

- State Participation in the Superfund Program, Volume II: State Procurement Under Superfund Remedial Cooperative Agreements, March 1986 (hereafter refered to as the State Manual, Volume II).

To be consistent with EPA policy, attention should be given to the utilization of minority business enterprises and women's business enterprises.

2.2 Design Initiation

Following selection of a remedy and Record of Decision (ROD)/Enforcement Decision Document (EDD) approval by the designated EPA official, action must be taken to initiate design activities. The lead design party shall ensure the design package is developed consistent with the approved ROD/EDD and applicable CERCLA policy and procedures. Remedial planning information to be provided to the lead design party and the type of agreement used to initiate design are discussed below.

2.2.1 Remedial Planning Information Provided to Lead Design Party

When the lead design party is different than the lead RI/FS party, the EPA RPM must provide remedial planning information to the appropriate design party (i.e. USACE, State, responsible party) in order to initiate design. If the lead party does not change from RI/FS to RD, this is not required since the lead party should already have the information.

2.2.1.1 Record of Decision/Enforcement Decision Document and Final Remedial Investigation/Feasibility Study (RI/FS) Report

Mandatory information to be provided to the lead design party includes a copy of the approved ROD/EDD and the final RI/FS report(s). This information should be forwarded as soon as possible after ROD/EDD approval in order to facilitate initial design activities.

2.2.1.2 Pre-Design Report

A Pre-Design Report shall be prepared by the lead RI/FS party and provided to the lead design party. The objective of the Pre-Design Report is to describe the engineering parameters and institutional concerns of the selected remedy, and package all pertinent project information for effectively transferring the project to the lead design party. The Pre-Design Report replaces the conceptual design task of the FS. The Pre-Design Report should be completed within 2 weeks following remedy selection, and the cost should be limited to approximately 5 percent of the cost of the feasibilty study. A suggested outline for the Pre-Design Report is presented in Exhibit 2-3.

2.2.1.3 Technical Transfer Briefing

The EPA RPM should schedule a technical transfer briefing between lead design party and the lead RI/FS party. The purpose of this briefing would be to facilitate project transfer and resolve any outstanding issues or questions.

2.2.2 Type of Agreement

The type of agreement used to initiate design is dependent on the party that is responsible for design. For Federal lead remedial design, action is initiated through an Interagency Agreement (IAG) with the USACE. For State lead remedial design, action is initiated through a cooperative

EXHIBIT 2-3
SUGGESTED OUTLINE FOR PRE-DESIGN REPORT

1. Site Description

2. Summary of Selected Remedy

   - Description of remedy & rationale for selection
   - Performance Expectations
   - Site topographic map & preliminary layouts
   - Preliminary design criteria & rationale
   - Preliminary process diagrams
   - General operation and maintenance requirements
   - Long-term monitoring requirements

3. Summary of Remedial Investigation and Impact on Selected Remedy

   - Field studies
     (Air, surface water, ground water, geology)

   - Laboratory studies
     (Bench scale, Pilot scale)

4. Design/Implementation Precautions

   - Special technical problems
   - Additional engineering data required
   - Permits & regulatory requirements
   - Access, easements, rights-of-way
   - Health & safety requirements
   - Community relations activities

EXHIBIT 2-3 (CONTINUED)
SUGGESTED OUTLINE FOR PRE-DESIGN REPORT

5. Cost Estimates & Schedules

   - Implementation cost estimate (Order of Magnitude, + 50%/- 30%)
   - Preliminary annual O&M cost estimate and duration
   - Project schedule (design, construction, permits & access)

6. Appendices

   - Reports, data summaries, etc.

agreement (CA) with the State. For responsible party remedial design, action is initiated through a document of settlement with the responsible party(ies) (i.e. judicial consent decree or administrative order on consent).

2.2.2.1 Federal Lead Remedial Design

To initiate design at a Federal lead site, the EPA RPM works with the State to process a new State Letter of Request or amends the existing MOU to include the remedial design if remedial design was not covered in the original MOU. The RPM and the State officials should refer to the State Manual, Volume I, for specific information.

Once the State Letter or MOU is processed, the RPM shall coordinate with USACE-MRD and establish necessary funding for design. The EPA Region should prepare a draft site-specific design IAG with USACE-MRD, concurrent with submitting the final ROD package for approval. After ROD approval, the EPA Region should finalize the design IAG with USACE-MRD. The RPM should forward copies of the executed design IAG to EPA HQ and USACE-HQ (DAEN ECE-B). USACE-MRD will initiate design activities through the appropriate Design District. The RPM will monitor all design activities. The design process is outlined in Exhibit 2-1. A sample (sample No. 2) site-specific design IAG is included in Appendix A.

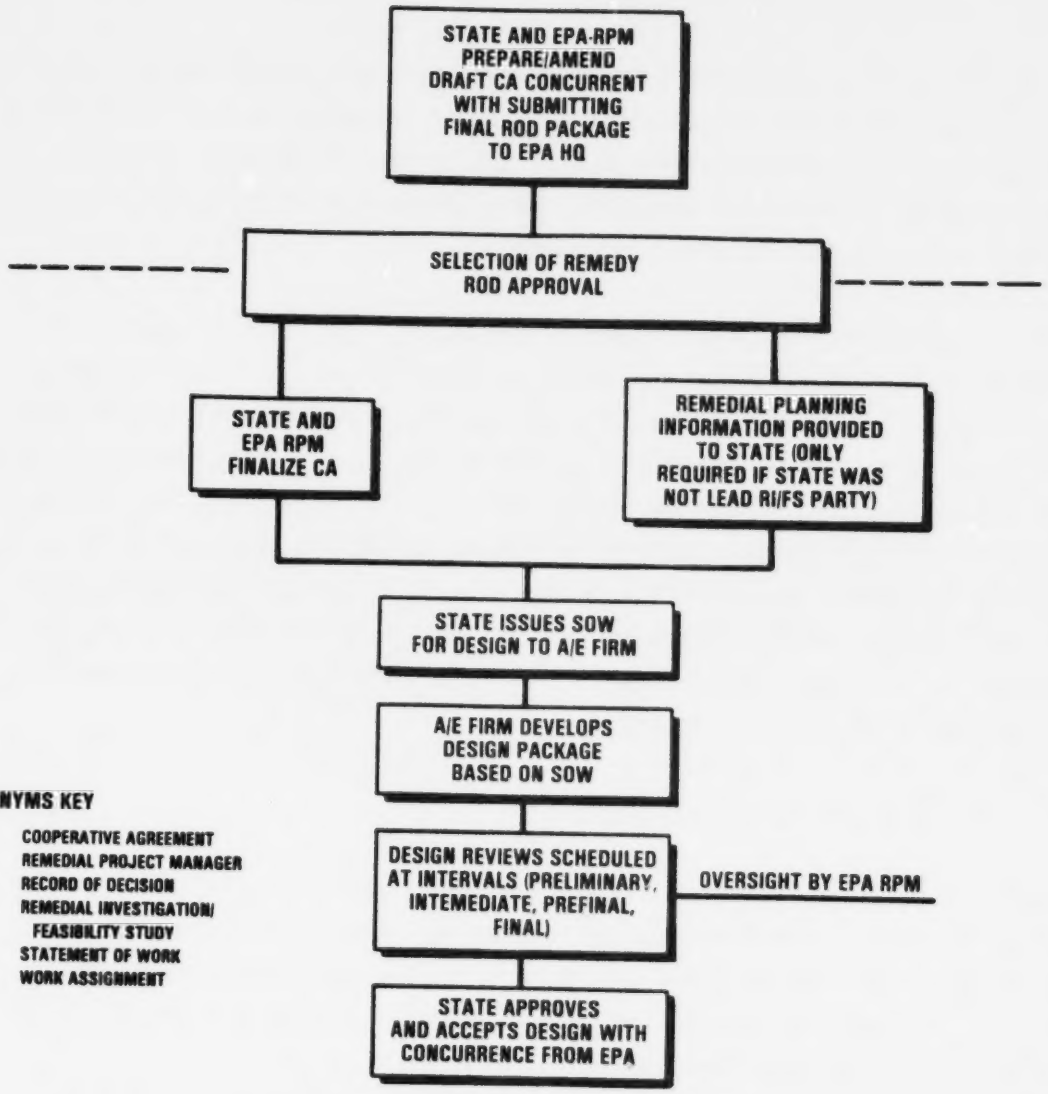
2.2.2.2 State Lead Remedial Design

To initiate design at a State lead site, the RPM works with the State either to amend the existing CA or to develop a new CA for RD, or for both RD and RA. The RPM and State should refer to the State Manual, Volumes I and II, for specific information and procedures. Exhibit 2-4 graphically depicts the State lead remedial design process.

2.2.2.3 Responsible Party Remedial Design

To initiate design for a responsible party clean-up, EPA enters into a settlement agreement (consent decree or administrative order on consent) with the responsible party(ies). The responsible parties will then proceed

EXHIBIT 2-4
STATE LEAD REMEDIAL DESIGN PROCESS


STATE AND EPA-RPM PREPARE/AMEND DRAFT CA CONCURRENT WITH SUBMITTING FINAL ROD PACKAGE TO EPA HQ
SELECTION OF REMEDY ROD APPROVAL
STATE AND EPA RPM FINALIZE CA
REMEDIAL PLANNING INFORMATION PROVIDED TO STATE (ONLY REQUIRED IF STATE WAS NOT LEAD RI/FS PARTY)
STATE ISSUES SOW FOR DESIGN TO A/E FIRM
A/E FIRM DEVELOPS DESIGN PACKAGE BASED ON SOW
DESIGN REVIEWS SCHEDULED AT INTERVALS (PRELIMINARY, INTEMEDIATE, PREFINAL, FINAL)
OVERSIGHT BY EPA RPM
STATE APPROVES AND ACCEPTS DESIGN WITH CONCURRENCE FROM EPA

ACRONYMS KEY

CA	COOPERATIVE AGREEMENT
RPM	REMEDIAL PROJECT MANAGER
ROD	RECORD OF DECISION
RI/FS	REMEDIAL INVESTIGATION/ FEASIBILITY STUDY
SOW	STATEMENT OF WORK
WA	WORK ASSIGNMENT

ahead with the selection of a support contractor as needed to complete the design, according to the schedule and conditions set forth in the document of settlement. The process for responsible party lead is shown in Exhibit 2-5. This discussion pertains only to settlement agreements where no trust fund monies are involved. EPA will provide additional guidance on responsible party oversight in the future.

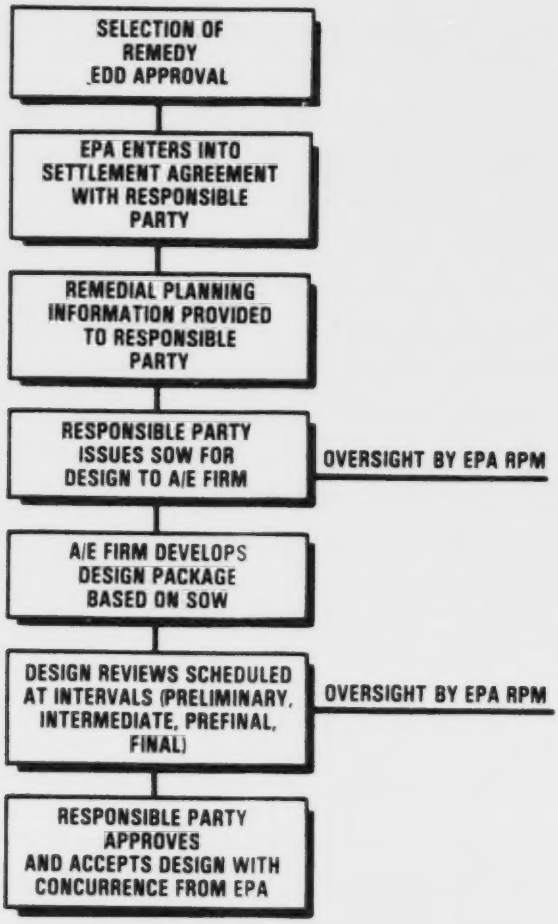
2.2.3 Architect/Engineer Conflict of Interest

In the process of selecting an A/E firm for Fund-financed remedial design, the State or EPA shall evaluate whether the prospective A/E has a potential conflict of interest based on any potentially responsible party (PRP) involvement at the site. This could include the situation where a current client may be a PRP at the site. The EPA-Region should include a provision in all CAs and IAGs regarding contracts with PRPs. Appendix F of the State Manual, Volume I, suggests specific language to be included in a CA provision and suggests specific clauses to be included by the State in any contract for services or construction. IAGs should contain a provision consistent with Appendix F, stating the USACE will require interested contractors to provide information and EPA will evaluate potential conflicts. The USACE should include a provision equivalent to Appendix F in the contract for RD.

2.3 Elements To Be Included In Statement Of Work (SOW)

It is essential that the A/E firm retained to accomplish the design for a specific remedial action have a clear understanding of the project scope and subsequent required design documents. The following elements of a statement of work are intended as guidance in preparing site-specific A/E instructions and apply to Fund-financed and responsible party remedial design (RD). The design Project Officer (PO) shall ensure that the appropriate elements are addressed. Further requirements for preparing the A/E statement of work are presented in Appendix B.

EXHIBIT 2-5
RESPONSIBLE PARTY LEAD REMEDIAL DESIGN PROCESS


SELECTION OF REMEDY EDD APPROVAL
EPA ENTERS INTO SETTLEMENT AGREEMENT WITH RESPONSIBLE PARTY
REMEDIAL PLANNING INFORMATION PROVIDED TO RESPONSIBLE PARTY
RESPONSIBLE PARTY ISSUES SOW FOR DESIGN TO A/E FIRM
OVERSIGHT BY EPA RPM
A/E FIRM DEVELOPS DESIGN PACKAGE BASED ON SOW
DESIGN REVIEWS SCHEDULED AT INTERVALS (PRELIMINARY, INTERMEDIATE, PREFINAL, FINAL)
OVERSIGHT BY EPA RPM
RESPONSIBLE PARTY APPROVES AND ACCEPTS DESIGN WITH CONCURRENCE FROM EPA

ACRONYMS KEY

EDD	ENFORCEMENT DECISION DOCUMENT
SOW	STATEMENT OF WORK

2.3.1 Plans and Specifications

The SOW for remedial design should require the A/E to prepare the final construction plans and specifications to accomplish the remedial action alternative as defined in the Record of Decision/Enforcement Decision Document (ROD/EDD). The specifications should include quality assurance provisions in all proposed work. It should also state that the A/E shall conduct the analysis and perform all work as required to prepare the document package required for the remedial action. (For further detail see Appendix B). In general, the plans and specifications portion of the SOW should include the following phases:

- Preliminary Design - The Scope of the preliminary design should address not less than 30% of the total design and shall be based on data furnished for the project.

- Intermediate Design - Complex project designs may necessitate review of the design documents between the preliminary and prefinal/final design phases. At the discretion of the design PO a design review may be required at 60% completion of the design.

- Prefinal/Final Design - Prefinal/final design documents shall be submitted in two parts. The first submission shall be at 90% completion of design (i.e., prefinal). After approval of the prefinal submission, the A/E shall execute the required revisions and submit the final documents 100% complete with the reproducible drawings and specifications ready for bid advertisement. This portion of the document package as submitted for prefinal/final design shall include, but not be limited to the design analysis, final construction drawings and specifications and cost estimate.

- Correlating Plans and Specifications - The coordination between drawings and technical specifications is a principal requirement of the A/E contract. The coordination shall be consistent with the submission requirements of the drawings and specifications through prefinal/final design.

- Selection of Offsite Resource Conservation and Recovery Act (RCRA) Facilities - The A/E shall ensure compliance with CERCLA procedures for selecting an offsite RCRA facility and the requirements specified in the ROD/EDD. Refer to Procedures for Planning and Implementing Off-Site Response Actions, memorandum from Jack McGraw, May 6, 1985 (reference 3), for specific requirements.

- Compliance with the Requirements of other Environmental Laws - The A/E shall ensure that the design package submitted is in accordance with CERCLA procedures on compliance with other environmental laws. Refer to "CERCLA Compliance with Other Environmental Statutes," Appendix to Preamble of the National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, (50 FR 2892.6), November 20, 1985 (reference 4), for additional information. All applicable or relevant and appropriate requirements identified in the ROD/EDD shall be analyzed and incorporated into the design by the A/E. The A/E shall identify the controlling parameters as required by such standards.

- Equipment startup and Operator Training - The AE shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operation of the treatment systems, and appropriate operational procedures training once the startup has been successfully accomplished.

2.3.2 Additional Studies

Remedial actions involving the on-site treatment or disposal of contaminated wastes (i.e., groundwater, lagoon wastes, etc.) may require additional studies to supplement the technical data available from the RI/FS activities so that the optimum treatment or disposal methods may be determined. Additional studies could include field work and/or bench and pilot scale studies. For futher detail see Appendix B. The quality assurance project plan and site safety plan from the RI/FS should be tailored for any studies, as required.

The fact that such studies will be performed should be explicitly addressed in the ROD, and if necessary, the ROD should authorize the Region to make any necessary choice among treatment or disposal options.

2.3.3 Operation and Maintenance Plan

In most instances, remedial activities will result in the requirement of a varying degree of operational and maintenance (O&M) activity associated with the completion of a project. The RI/FS and ROD will indicate the types of O&M activities required and provide a cost estimate. The RD will provide more detail on the specifics and degree of O&M activities required, and provide a more accurate cost estimate. To ensure correlation of the separate but related phases of design and O&M, the A/E shall submit an initial draft O&M plan simultaneously with the prefinal design document submission and the final draft O&M plan with the final design documents. For guidance on developing a comprehensive O&M plan see Appendix B. The O&M plan will be finalized and submitted by the A/E or construction contractor at the prefinal construction conference.

2.3.4 Quality Assurance Project Plan

A site-specific Quality Assurance Project Plan (QAPP) shall be prepared by the A/E, if the project will involve any sampling or monitoring activities. The plan will provide guidelines for project organization which

shall outline and identify quality-control (QC) and quality assurance (QA) responsibilities of the construction contractor, lead design party, or other applicable agencies during construction. The QAPP should be consistent with EPA QA/QC Procedures. The A/E shall submit a draft QAPP simultaneously with the prefinal design documents and the final QAPP with the final design documents submission. For guidance on the development and applicability of the QAPP see Appendix B.

2.3.5 Site Safety Plan

An important aspect of a remedial action project, during both design and construction, is the health and safety of the individuals who will be on site and that of the surrounding communities. The A/E shall develop, in response to site specific data, specifications to be used by the Construction Contractor in developing a Site Safety Plan (SSP) that is sufficient to protect on-site personnel and surrounding communities from the physical, chemical, and/or biological hazards of the site. The A/E shall submit draft specifications with the prefinal design document submission and the final specifications with the final design documents. For guidance on development and compliance requirements of the SSP see Appendix B.

2.3.6 Architect/Engineer Services During Construction

The party responsible for accomplishing a remedial action may deem it desirable or mandatory that the A/E preparing the final design package assume an active role in the on-site remedial action (construction) work. The use of A/E services during construction is encouraged in the following areas:

- Review construction contractor submittals
- Attend conferences and visit project site
- Provide field representative.

For further information and guidance on possible services provided by the A/E within these areas see Appendix B.

2.4 Design Reviews and Approvals

The concept for a Superfund remedial project is determined when EPA selects a cleanup alternative based upon the feasibility study and supporting documents, and as specified in the ROD or EDD. Once an A/E firm is contracted to perform the design work necessary to implement the selected remedy, the Government reviewing agencies are responsible for the review, approval and acceptance of the final plans and specifications. Interim outputs as well as the final product of the A/E must be reviewed to ensure that the design is progressing in a manner consistent with the ROD/EDD and existing environmental and construction standards. The Government design review and approval responsibilities for all reviews are dependent on the lead design party and are listed below. For responsible party RD, the responsible party has the primary responsibility for design review and for submitting the design documents to EPA for government review.

RD Lead	Government Review Responsibility	Environmental Review Assistance	Technical Review Assistance
Federal	USACE	EPA and State	---
State	State	EPA	USACE or EPA Contractors upon request
Responsible Party	EPA	State	USACE or EPA Contractors upon request

2.4.1 Preliminary Design

The preliminary design shall be submitted by the A/E when the design effort is approximately 30% complete. The submittal should consist of the plans and specifications previously described in Section 2.3.1. If bench and pilot studies were required, the interim report should be included with

the submittal. For responsible party RD, the preliminary cost estimate will be submitted at the discretion of the responsible party. The preliminary review is important to correct or modify any problems areas before extensive design is completed.

2.4.1.1 Environmental Review

The preliminary design submittal shall be reviewed from an environmental quality standpoint for Fund-financed and responsible party RD, to ensure that all the necessary elements are included in the specifications to address full compliance with the applicable or relevant and appropriate Federal environmental and public health requirements which are identified in the ROD/EDD (refer to reference 4).

2.4.1.2 Technical Review

The preliminary design shall be reviewed from a technical standpoint for compliance with the SOW (refer to Section B.1.1), constructability, and accuracy of the cost estimate.

2.4.2 Intermediate Design

At the discretion of the design PO, the intermediate design shall be submitted for review when the design is approximately 60% complete. The submittal shall consist of the plans and specifications described in Section 2.3.1.

2.4.3 Prefinal Design

The prefinal design submittal shall occur when the design is approximately 90% complete and shall consist of the plans and specifications, O&M plan, QAPP, and specifications for SSP previously described in Sections 2.3.1 and, 2.3.3 - 2.3.5. The Government agencies' major review should occur at this time. For responsible party RD, the cost esti. ate will be submitted at the design PO's discretion.

2.4.3.1 Environmental Review

The prefinal design submittal shall be reviewed for:

- Compliance with all applicable or relevant and appropriate environmental and public health requirements identified in the ROD/EDD
- Utilization of currently accepted environmental control measures and technology
- The adequacy of the O&M plan, QAPP, and SSP specifications
- Consistency with ROD/EDD, and environmental and public impacts.

2.4.3.2 Technical Review

The prefinal design submittal shall be reviewed to ensure:

- The bidability and constructability of the design
- The accuracy of the construction cost estimate
- Utilization of currently accepted construction practices and techniques
- The ability of a construction contractor to submit a fair and reasonable bid based upon the bid schedule included in the specifications
- The accuracy of any estimated quantities of materials specified in the design

That the responsibilities and liabilities of the construction contractor and the government are clearly defined and detailed in the design documents (fund financed only).

2.4.4 Final Design

The final design submittal shall consist of the final design plans and specifications (100% complete), the A/E firm's final construction cost estimate, the final draft O&M Plan, final QAPP and SSP specifications. The quality of the design documents should be such that the government or responsible party is able to include them in a bid package and invite contractors to submit bids for the construction project.

2.4.4.1 Extent of Review

The appropriate agencies from Secton 2.4 shall review this submittal, to ensure that the A/E has adequately addressed all concerns and comments generated during the prefinal design review process. If further revisions to the design are required, the A/E firm shall be so directed.

2.4.4.2 Final Approval

The agency or party to whom the A/E is under contract shall have the authority to approve and accept the design, with concurrence from the EPA and the State on Federal-lead and responsible party projects, and from EPA alone on State-lead projects.

2.4.4.3 Plan-In-Hand Review

Plan-In-Hand Review of the final design shall be made by the A/E and coordinated with the design PO just before the advertisement for construction of the project.

2.4.5 Major Design Changes

It is the EPA RPM's responsibility during design reviews and approvals to ensure that the design package being developed by the USACE, State, or responsible party is consistent with the approved ROD/EDD. If it appears that major design changes are occurring that would significantly alter the remedy approved in the ROD/EDD, the RPM should notify the design PO in writing to temporarily halt design activities and immediately notify the EPA official delegated ROD responsibility of the situation. That EPA official will determine if the design changes warrant a ROD/EDD amendment and an additional public comment period. Minor design changes can be approved by the design PO, with concurrence from the EPA RPM, consistent with the approved ROD/EDD.

Technical scope changes and/or cost changes in the project could constitute a major design change. Examples of changes which would constitute a major change include:

- Change from treatment remedy to disposal remedy or vice versa
- Proposed remedy will not work due to field conditions
- Significant increase in implementation cost results in another alternative being potentially less costly.

Examples of changes which would not constitute a major change include:

- Change from one treatment process to another with equivalent performance
- Cost savings achieved through value engineering review.

2.4.6 Value Engineering

For Fund-financed projects, EPA recommends that the USACE and State include value engineering screening during the design phase for all remedial action projects where a potential for substantial cost savings exists. Value engineering screening shall be limited to project refinements which would not significantly change or alter the approved remedy, unless otherwise approved by EPA. Value engineering screening will consist of listing high cost items that have a potential for cost savings.

Those RA projects which, as a result of the value engineering screening, show a reasonable promise for significant cost savings will be recommended to EPA for approval of formal value engineering study by the USACE or State. Potential impacts on the RA project schedule and EPA funding requirements for a formal value engineering study will be identified by the USACE or State.

2.5 Permits, Approvals and Site Access

It is important to identify early in the design process all permits, approvals and site access agreements, if any, required for the project. Prompt action should be taken to obtain the required permits, approvals, and site access agreements in order to avoid delays in implementing the remedial action. The following discussion pertains to Fund-financed and responsible party remedial design.

2.5.1 Permits and Approvals

The permits and approvals which may be required for a project and the responsibility of obtaining them is dependent on the particular project and the lead design party. Refer to reference 2 for additional information.

2.5.1.1 Requirements

EPA has set forth a policy (Reference 4) addressing compliance with other environmental statutes. On-site and off-site remedial actions shall comply with the substantive requirements of applicable or relevant and appropriate Federal laws identified in the ROD/EDD. For on-site remedial actions, environmental permits are not required. However, if material is to be taken off site, the receiving facility must possess all appropriate environmental permits identified in the ROD/EDD. In general, the construction contractor shall be responsible for obtaining any necessary non-environmental construction permits and approvals (i.e., building permit, electrical permit, etc.).

2.5.1.2 Responsibilities

The responsibility for obtaining the required permits and approvals is dependent on the lead design party and is summarized below.

RD Lead	Environmental Permits (Off-site RA only)
Federal	State
State	State
Responsible Party	Responsible Party

The design PO can request the A/E to provide assistance in obtaining necessary permits and approvals.

2.5.2 Site Access

At many uncontrolled sites, cleanup actions may have to be taken which could require short or long term use of adjoining property or property within the site boundaries owned by parties other than the site owner. In addition, the recommended remedial alternative at the site could include actions which might restrict access to or use of both property within the site boundaries and adjoining property. In these situations, it may be necessary to obtain access to affected property prior to the initiation of remedial actions.

2.5.2.1 Requirements

At a site where property access is needed, it is first desirable to obtain voluntary access agreements or rights-of-way from the involved property owners. These access agreements should be obtained prior to the completion of design of the cleanup alternative. By obtaining these agreements at this time, there will be assurance that the remedial construction will not be delayed due to disputes with property owners.

In some instances, it may be appropriate to acquire easements or other interests in property. Guidance on aquisition will be forthcoming. Any purchase of property or easements would be RA activities, requiring State cost share for Fund-financed projects.

For Fund financed RA, if voluntary access cannot be achieved and resistance from property owners is encountered, the State should make all efforts to the extent of its legal authority to secure site access. If State efforts fail to secure access, the State should notify EPA in writing, and EPA may have to exercise its statutory authority under Section 104 of CERCLA and an appropriate access order for entry may have to be secured from a court having jurisdiction over the matter.

For responsible party RA, EPA or the State should assure that responsible parties take all actions needed to obtain access in a timely manner, and should step in and take legal action if necessary to secure access.

Once again, access agreements, acquisition of interest in property, or court orders for access should occur during the design phase of cleanup, prior to the initiation of remedial construction, so that possible costly delays will not be encountered. Property access should extend for the duration of the cleanup and associated operation and maintenance, as necessary.

2.5.2.2 Responsibilities

The responsibility for obtaining access to the site and adjacent properties, as well as for all rights-of-way and easements necessary to implement the remedial action is dependent on the lead design party and is summarized below. For Federal lead RD, the state or EPA must assure the USACE that site access has been obtained prior to the USACE initiating procurement activities for RA.

RD Lead	Responsibility
Federal	State
State	State
Responsible Party	Responsible Party

2.6 Community Relations Activities

A Community Relations Plan (CRP) should be revised to include any changes in the level of concern or information needs of the community during design and construction activities. Community relations activities during design and construction are discussed below, and pertain to Fund-financed and private party projects.

2:6.1 Objectives

The basic objectives of the Superfund community relations program from remedial investigation through construction are as follows:

- To gather information about the community in which a site or incident is located;
- To inform the public of planned or ongoing actions;
- To give the public the opportunity to be involved in decision making; and
- To focus and resolve controversy.

2.6.2 Implementation Activities and Techniques

The implementation of an active community relations program as outlined in Community Relations in Superfund: A Handbook, requires utilization of two-way communication. Community relations techniques are selected to fit the specific needs of the site community as determined by conducting on-site discussions. Small public meetings, fact sheets, press releases, contact lists, door-to-door visits, local information repositories and comment periods are some of the most effective techniques, especially during the design process, to ensure that the public is involved in the decision-making process.

Specific activities which must be conducted during the design stage are the following:

- Revise the site community relations plan at the start of design to reflect knowledge of citizen concerns and involvement at this stage of the process; and

- Prepare and distribute a public notice and an updated fact sheet at the completion of engineering design.

Specific activities to be conducted during the construction stage could be the following:

- Depending on citizen interest at a site at this point in the remedial process, community relations activities could range from small group meetings to site visits to fact sheets on the technical status.

2.6.3 Responsibilities

Responsibility for amending the CRP and implementing community relation activities is dependent on the lead party for the RD/RA and is outlined below.

RD/RA Lead	Amend CRP	Implement CRP	Provide Assistance
Federal	EPA	EPA	State or USACE
State	State	State	EPA
Responsible Party	EPA	EPA	State and/or Responsible Party

2.7 Cost Estimates For Construction

The importance of accurately estimating the costs for accomplishing site-specific construction (i.e., remedial action) can not be over emphasized. The development of an accurate total cost estimate is essential in order to provide adequate funding for a remedial action SSC/IAG or CA, and to determine State cost share. The following section discusses the elements included in the total cost estimate for a remedial action, and pertains only to Fund-financed remedial actions.

2.7.1 Estimated Cost of Project

The preparation of a high quality set of plans and specifications is inadequate unless the project cost estimate is prepared to the same standards. The process for developing an accurate project cost estimate is discussed in Appendix B. The project cost estimate becomes more refined as the design progresses from the ROD to the preliminary design to the prefinal/final design. For most projects, the final project cost estimate should be within +15% to -10% of the actual cost. The importance of the accuracy of the final project cost estimate is magnified since estimates of additional costs discussed in Sections 2.7.2 and 2.7.3 are based on the project cost estimate.

2.7.2 Supervision and Administration (S&A) and Engineering and Design (E&D) During Construction

Supervision and Administration (S&A) and Engineering and Design (E&D) costs during construction must be established for each remedial action. These costs are best represented as percentages of the project cost. The following are percentages recommended to be used in estimating costs.

8% S&A for contracts up to $2,000,000
6% S&A for contracts over $2,000,000
1.5% E&D for contracts up to $2,000,000
1.0% E&D for contracts over $2,000,000

The percentage used may vary even more for very small or very large projects.

2.7.3 Contingency Limits

A contingency fund should be established for each site-specific remedial action project to cover unforeseen cost variances which may occur before construction commences or during construction.

2.7.3.1 Bid Contingency

The lowest responsive bid submitted during the procurement process may exceed the project cost estimate due to complexity of the project, changes in the bidding climate, etc. Bid contingencies are best represented as a percentage of the project cost. The recommended amount for a bid contingency is 15% of the project cost.

2.7.3.2 Change Orders and Claims

During construction, unforeseen site conditions, changes in estimated quantities, project delays and other problems associated with the project are likely to develop and lead to change orders and claims. A contingency for change orders and claims is best expressed as a percentage of the project cost. The following percentages are recommended.

10% contingencies for contracts up to $2,000,000
8% contingencies for contracts over $2,000,000

2.7.4 Total Cost Estimate for Remedial Action Agreements

The total cost estimate to be used in developing SSCs should include all costs discussed in Sections 2.7.1 - 2.7.3. The total cost estimate to be used in obligating funds for CAs and IAGs should be the total cost less the contingency for change orders and claims.

Any amount of the bid contingency not needed would be applied towards the contingency for change orders/claims up to the recommended amount in section 2.7.3.2. Any additional amount left in the contingency would be deobligated or any amount still needed for change orders/claims will be available from the Region's SCAP.

Example calculations for estimating the total cost for RA are presented on the following page.

Total Cost Estimate for IAG or CA

Estimated cost of project		$3,500,000
S&A during construction (.06 x $3,500,000)		210,000
E&D during construction (.01 x $3,500,000)		35,000
Bid contingency or contingency for change orders/claims (.15 x $3,500,00)		525,000
	Total	$4,270,000

Total Cost Estimate for SSC

Total cost estimate for IAG		$4,270,000
Contingency for change orders/claims (.08 x $3,500,000)		280,000
	Total	$4,550,000

3. REMEDIAL ACTION

3.1 Remedial Action Initiation

Following completion and approval of the RD package, action must be taken to initiate remedial action (RA) activities. The type of agreement used to initiate RA is dependent on the party that will implement the RA and is discussed below.

3.1.1 Federal Lead Remedial Action

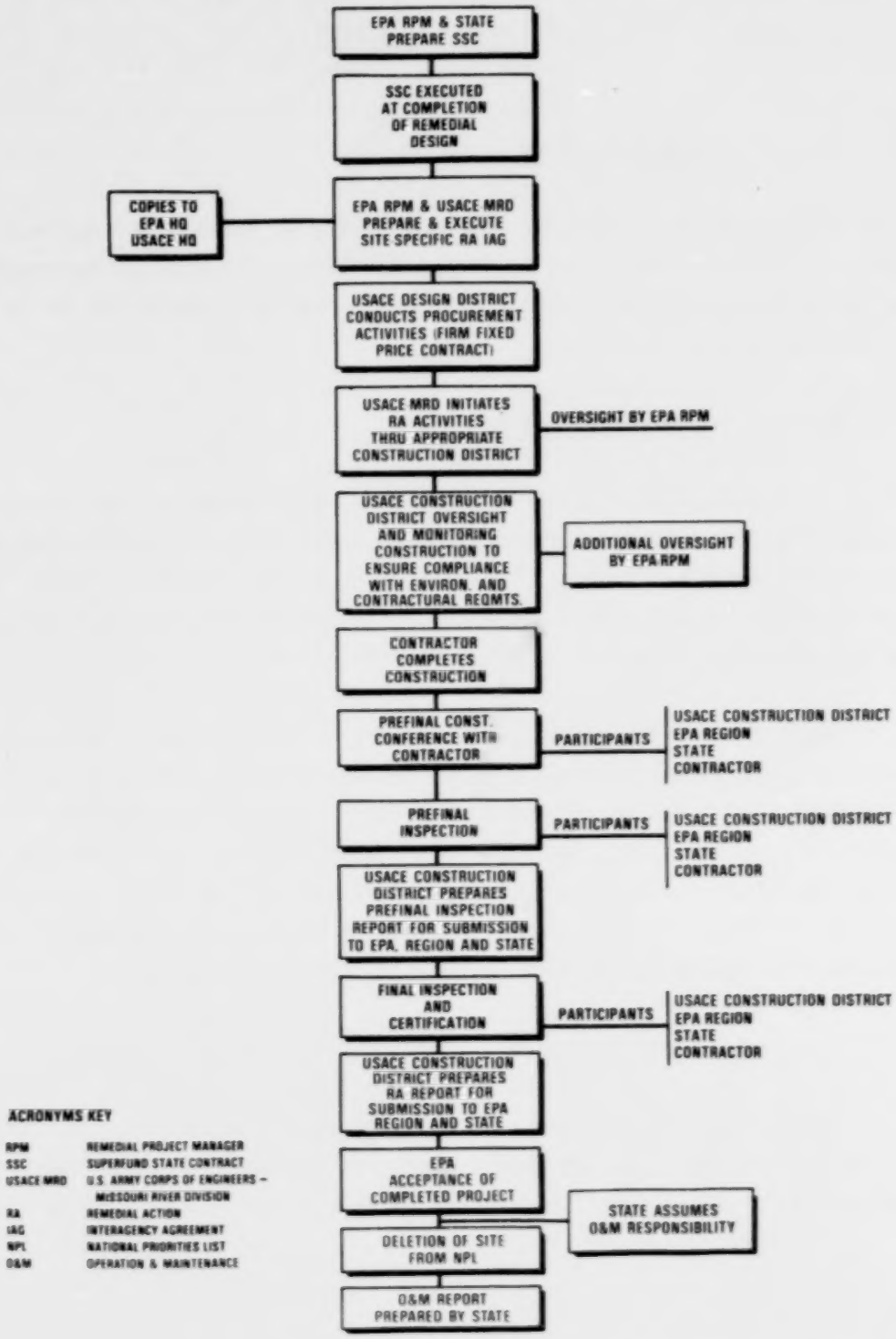
To initiate RA at a Federal lead site, the RPM works with the State to prepare and execute a Superfund State Contract (SSC). The RPM and the State should refer to the State Manual, Volume I, for specific information. Preparation of the SSC should commence during the RD phase of the project with SSC execution occurring at the completion of RD.

Once the SSC is executed, the EPA Region should prepare and execute a site-specific RA IAG with USACE-MRD. The RPM should forward copies of the executed RA IAG to EPA HQ and USACE-HQ. Upon completion of procurement activities (Section 3.2), USACE-MRD will initiate RA activities through the appropriate USACE Construction District. The RPM will maintain oversight of all RA activities. The process is outlined in Exhibit 3-1. A sample site-specific RA IAG is included in Appendix A (Sample No. 3).

3.1.2 State Lead Remedial Action

If the existing CA covers RA, no special action is required. If this is not the case, the RPM should work with the State to amend the existing CA for RA in order to initiate RA at a State lead site. The RPM

EXHIBIT 3-1
FEDERAL LEAD REMEDIAL ACTION PROCESS


EPA RPM & STATE PREPARE SSC
SSC EXECUTED AT COMPLETION OF REMEDIAL DESIGN
COPIES TO EPA HQ USACE HQ
EPA RPM & USACE MRD PREPARE & EXECUTE SITE SPECIFIC RA IAG
USACE DESIGN DISTRICT CONDUCTS PROCUREMENT ACTIVITIES (FIRM FIXED PRICE CONTRACT)
USACE MRD INITIATES RA ACTIVITIES THRU APPROPRIATE CONSTRUCTION DISTRICT
OVERSIGHT BY EPA RPM
USACE CONSTRUCTION DISTRICT OVERSIGHT AND MONITORING CONSTRUCTION TO ENSURE COMPLIANCE WITH ENVIRON. AND CONTRACTURAL REQMTS.
ADDITIONAL OVERSIGHT BY EPA RPM
CONTRACTOR COMPLETES CONSTRUCTION
PREFINAL CONST. CONFERENCE WITH CONTRACTOR
PARTICIPANTS
USACE CONSTRUCTION DISTRICT
EPA REGION
STATE
CONTRACTOR
PREFINAL INSPECTION
PARTICIPANTS
USACE CONSTRUCTION DISTRICT
EPA REGION
STATE
CONTRACTOR
USACE CONSTRUCTION DISTRICT PREPARES PREFINAL INSPECTION REPORT FOR SUBMISSION TO EPA, REGION AND STATE
FINAL INSPECTION AND CERTIFICATION
PARTICIPANTS
USACE CONSTRUCTION DISTRICT
EPA REGION
STATE
CONTRACTOR
USACE CONSTRUCTION DISTRICT PREPARES RA REPORT FOR SUBMISSION TO EPA REGION AND STATE
EPA ACCEPTANCE OF COMPLETED PROJECT
STATE ASSUMES O&M RESPONSIBILITY
DELETION OF SITE FROM NPL
O&M REPORT PREPARED BY STATE

ACRONYMS KEY

RPM	REMEDIAL PROJECT MANAGER
SSC	SUPERFUND STATE CONTRACT
USACE MRD	U.S. ARMY CORPS OF ENGINEERS – MISSOURI RIVER DIVISION
RA	REMEDIAL ACTION
IAG	INTERAGENCY AGREEMENT
NPL	NATIONAL PRIORITIES LIST
O&M	OPERATION & MAINTENANCE

and State should refer to the State Manual, Volume I, for specific information and procedures. Exhibit 3-2 graphically depicts the State lead remedial action process.

3.1.3 Responsible Party Remedial Action

The document of settlement issued by EPA where no trust fund monies are involved will have covered RD and RA, and no special action is required to initiate RA at a responsible party site. The process for responsible party lead remedial action is shown in Exhibit 3-3.

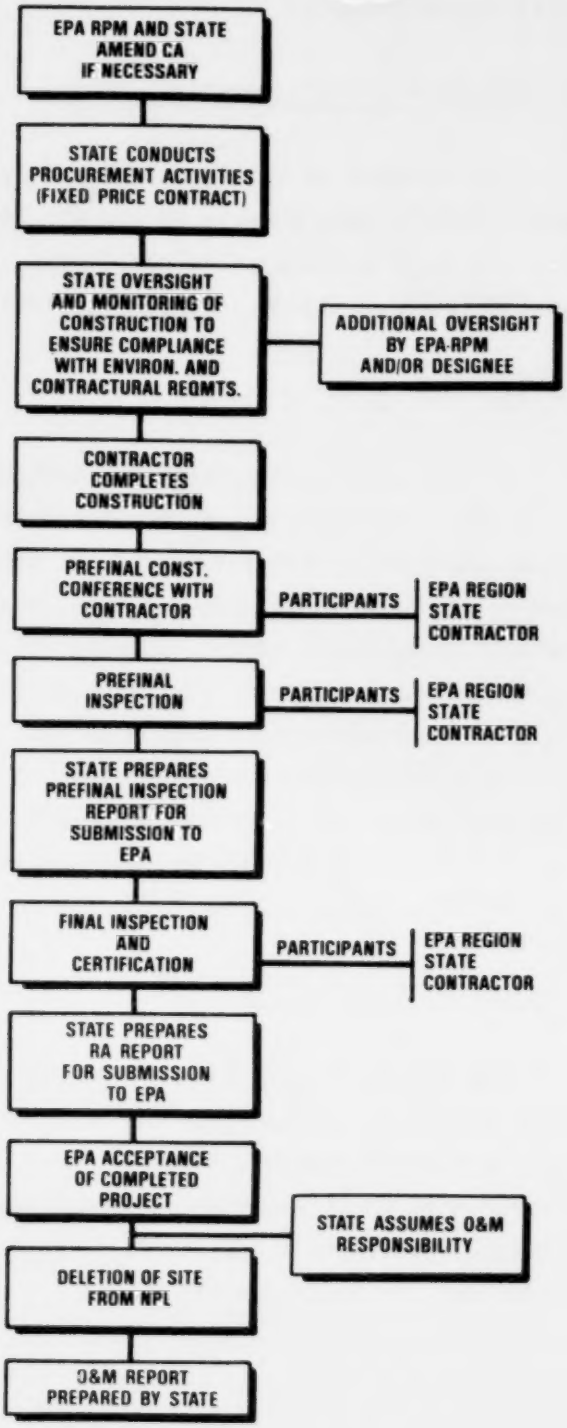
3.1.4 Conflict of Interest

In the process of selecting a contractor for Fund-financed RA, the State or EPA shall evaluate whether there is a potential conflict of interest based on any PRP involvement at the site. The EPA Region should include a provision in all CAs and IAGs regarding contracts with PRPs. Appendix F of the State Manual suggests specific language to be included in a CA provision and suggests specific clauses to be included by the State in any contract for services or construction. IAGs should contain a provision consistent with Appendix F, stating the USACE will require interested contractors to provide information and EPA will evaluate potential conflicts. The USACE should include a provision equivalent to Appendix F in the contract for construction.

3.2 Procurement Activities

The responsibility for procurement activities for Fund-financed remedial action is dependent on the lead party for the remedial action (RA). For Federal lead RA, the USACE will conduct procurement activities in accordance with USACE procurement procedures. For State lead RA, the State will conduct procurement activities in accordance with 40 CFR Part 33, Subpart E and the State Manual, Volume II.

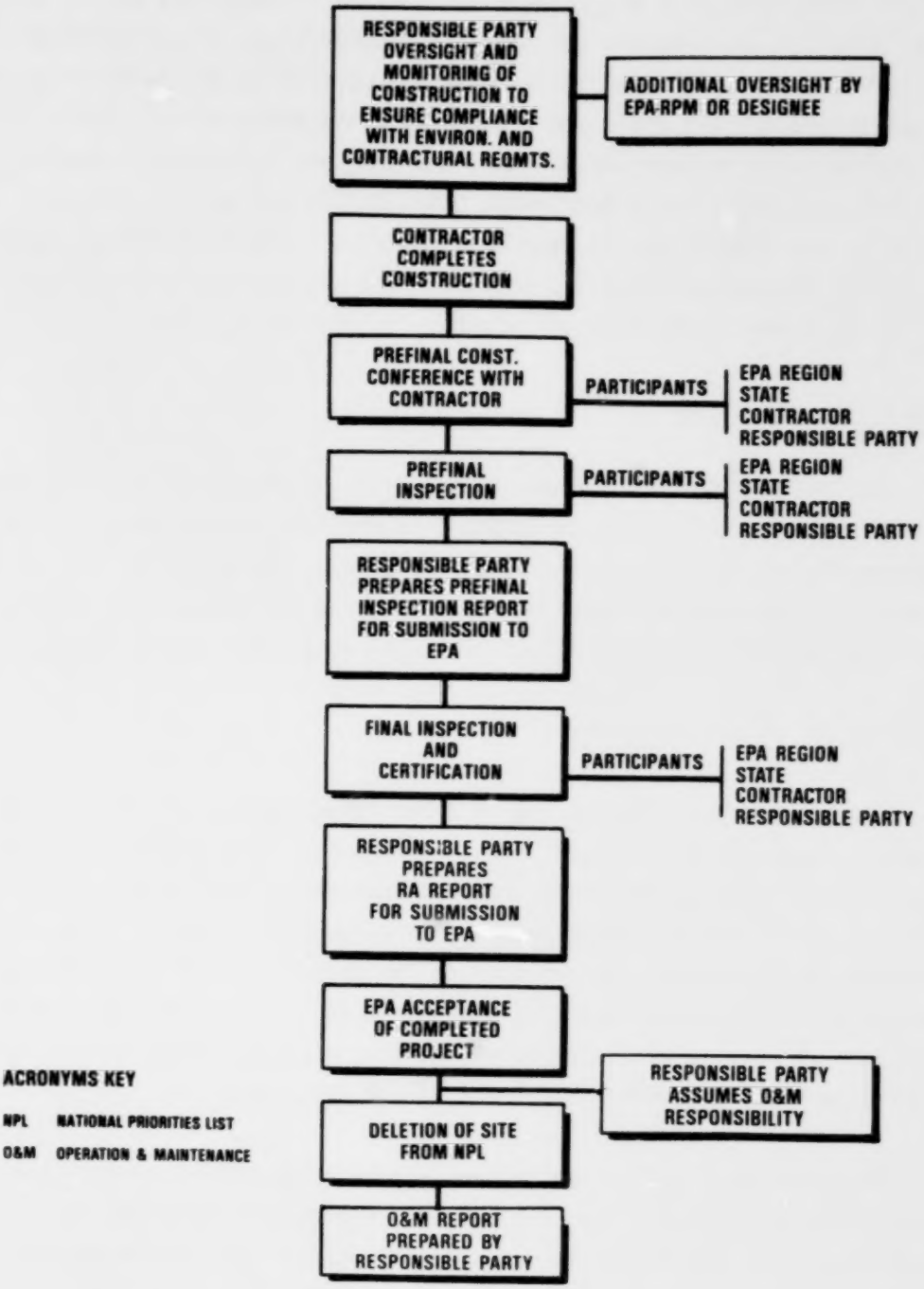
EXHIBIT 3-2
STATE LEAD REMEDIAL ACTION PROCESS



ACRONYMS KEY

CA	COOPERATIVE AGREEMENT
RPM	REMEDIAL PROJECT MANAGER
NPL	NATIONAL PRIORITIES LIST
O&M	OPERATION & MAINTENANCE

EXHIBIT 3-3
RESPONSIBLE PARTY LEAD REMEDIAL ACTION PROCESS



ACRONYMS KEY

NPL NATIONAL PRIORITIES LIST

O&M OPERATION & MAINTENANCE

3.2.1 Advertise for Bids

Procurement for remedial action should be through a fixed-price contract (lump sum, unit price, or a combination of two), and should be by formal advertising to assure full and free competition. Procurement by any means other than formal advertising must be approved by the award official. The specifications are rigid and require absolute conformance. Sealed bids are required at a certain place, date, and time and are publicly opened, read, and recorded. The bidder whose price is low and who is otherwise responsive and responsible is awarded a contract. The solicitation should require all proposals to explain how the prime contractor would utilize minority business enterprises and women's business enterprises.

3.2.2 Site Inspection

The USACE or State may deem it desirable, or mandatory in some cases, to conduct a site visit with the bidders in order to answer questions regarding the design or implementation. Copies of the RI/FS and the design document will be made available for review during the procurement phase, either in the USACE Design District Office or in a local public library.

3.2.3 Review of Bid Documents

This review shall be limited to determining whether or not the bidders are both responsive to the requirements of the bid solicitation, (i.e. are the bid bonds there in the proper form and amount, is the required insurance binder provided, etc.); and responsible (i.e. does each bidder possess the capability and experience as required in the solicitation to perform the remedial action in a safe and timely manner at the price bid, is there any potential conflict of interest, if RA involves off-site disposal does the off-site facility have RCRA compliance inspection, etc.)

The government bid review responsibility is dependent on the lead design party and is summarized below. For responsible party RA, the responsible party has the primary responsibility for bid review and for submitting the bid documents for government review.

RD Lead	Government Review Responsibility	Assistance
Federal	USACE	EPA and State
State	State	EPA (USACE or EPA Contractors) upon request)
Responsible Party	EPA	State (USACE or EPA Contractors upon request)

3.2.4 Bid Protests

Bid protests have the potential to significantly delay the RA. Procedures for avoiding bid protests, and lodging and dealing with protests, should be consistent with 40 CFR Part 33 and the State Manual, Volume II, for State lead projects and with USACE procedures for Federal lead projects. The key is often a complete and well documented bid specification which clearly describes the work to be performed and the responsive/responsible requirements.

3.3 Monitoring and Oversight

Records and reports maintained during these activities must be adequately documented since they will be used in the final certification of a remedial action. Monitoring and oversight of construction activities are discussed below, and pertain to Fund-financed and responsible party RA except where noted.

3.3.1 Inspections

The responsibility for construction inspection is dependent on the lead party for the RA and is summarized below.

RA Lead	Inspection	Oversight
Federal	USACE	EPA
State	State	EPA (USACE or EPA Contractors upon request)
Responsible Party	Responsible Party	EPA (State, USACE, or EPA Contractors upon request)

3.3.1.1 Full Time Inspector

During all on-site construction activities the party responsible for inspection will provide a full time on-site inspector with expertise in federal construction projects and proceedings. The on-site inspector shall be authorized to stop all activities not in compliance with 3.3.1.2 and 3.3.1.3 below, or which endanger the health and welfare of on-site personnel and surrounding residents. For large sites or complex projects, additional on-site inspectors may be required.

For Fund lead RA, construction oversight will occur at intervals determined by the complexity of the project, by the EPA RPM on Federal lead RA and the EPA RPM or USACE on State lead RA.

For responsible party RA, construction oversight will be provided by the EPA RPM or his designee (i.e. State or USACE) on an ongoing basis. The document of settlement will specify the authority of the oversight personnel in regards to construction activities.

3.3.1.2 Compliance with Environmental Requirements

Inspections should verify compliance with all environmental requirements identified in the contract. These inspections shall include, but not be limited to air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspector also should ensure compliance with all health and safety procedures.

3.3.1.3 Compliance with other Contract Requirements

The inspector shall review all daily reports and construction activities to verify that all work is in compliance with all contract requirements and shall note and resolve all discrepancies immediately. The EPA RPM can assist in resolving discrepancies upon request.

3.3.1.4 Review of Contractor Reports

The on-site inspector shall review all reports (daily, weekly, and monthly, etc.) and initial each. All comments on these reports should be noted in the inspector's daily log.

3.3.2 Progress Reports to EPA

Detailed progress reports will be required throughout the duration of the project. The progress reports will be prepared and submitted to EPA Regions and HQ in accordance with the following:

RA Lead	Preparer	Frequency of Report
Federal	USACE	Monthly
State	State	Quarterly
Responsible Party	Responsible Party	Monthly

The progress reports will be used by EPA to monitor the remedial construction activities. The content of these reports will be sufficient to develop a chronological record of all site activities and should include the following elements:

- Estimate of tne percentage of project completed and the total project cost to date
- Summaries of the following items for the reporting period:
  - Work performed on the site
  - Community relations activities including community contacts, citizen concerns, and efforts to resolve any concerns
  - Change orders and claims made on the contract
  - Problems or potential problems encountered

- Status of contingency fund to date (Fund-financed RA only)

- Projected work for the next reporting period

- Copies of contractor daily reports, change orders, RCRA manifests, and laboratory/monitoring data.

3.3.3 Contingency Fund for Change Orders and Claims

This fund is available for unforseen site conditions and other problems with cleanup, containment, need for alternate disposal sites, additional sampling or monitoring which develop and lead to change orders, claims, etc. Problems which would alter ROD decisions are not subject to use of the contingency fund and require HQ and/or Region approval. A site-specific list of items not applicable to contingency fund use may need to be developed as the project progresses. This section pertains only to Fund-financed RA.

3.3.3.1 Federal Lead Remedial Action

The USACE is reponsible for processing change orders and claims in accordance with USACE procurement procedures.

The USACE's project manager will be delegated authority to approve any change order up to 20% of the project contingency fund. Any change order exceeding 20% of the contingency fund will require approval of the EPA RPM. If 75% of the total contingency is spent, the USACE's project manager will formally notify the RPM in writing and state whether additional funding may be necessary. The USACE's project manager must receive written approval from the EPA RPM in order to exceed 75% of the project contingency fund. At no time will the USACE exceed 100% of the contingency fund.

3.3.3.2 State Lead Remedial Action

The state is responsible for processing change orders and claims with assistance and guidance from EPA, and in accordance with 40 CFR 33.

The State Project Officer (SPO) may be delegated the authority to approve any change order which totals up to 20 percent of the project contingency fund. Any change order that exceeds this 20 percent limit requires RPM approval. The SPO may continue to approve such change orders until 75 percent of the total contingency fund has been depleted. Thereafter, the State should request a CA amendment for additional funds, unless the project is near completion and no other change orders are anticipated. The State must receive written approval from EPA to exceed 75% of the project contingency fund.

Before any change order may be approved, the State must conduct a cost or price analysis (see 40 CFR 33). Superfund program procedures also require the State to perform a technical and administrative analysis (see the State Manual, Volume II, for more detail).

EPA will consider funding claims management costs and claims allowable to the project via an amendment of the existing CA (see the State Manual, Volume II for details).

3.4 Remedial Action Completion and Acceptance

As the project nears completion, roles and responsibilities of EPA, the State, and where appropriate the USACE and responsible parties, must be clearly defined to ensure proper project completion, approval, and closeout. Final inspection and closeout activities are discussed below.

3.4.1 Prefinal Construction Conference

Upon preliminary project completion, a prefinal construction conference with the contractor is required for Federal lead remedial action

(RA) and recommended for State lead and responsible party RA. The objective of the conference is to discuss procedures and requirements for project completion and closeout. The conference will be scheduled and chaired by the agency that has primary responsibility for construction inspection.

3.4.1.1 Participating Parties

The parties that participate in the prefinal construction conference will vary depending on the lead party for the RA. In general, participants should include the following:

Party	RA Lead
EPA-Region	all leads
State	all leads
Contractor	all leads
USACE	Federal lead (State and responsible party when requested)
Responsible Party	Responsible party lead
Design A/E	when requested

3.4.1.2 Suggested Agenda Items

A list of suggested items to be covered at the conference includes but is not limited to:

- Final O&M plan submission
- Cleanup responsibilities
- Demobilization activities
- Security requirements for project transfer
- Prefinal inspection schedule
- Facility startup and testing
- Operator training

3.4.2 Prefinal Inspection

A prefinal inspection will be conducted upon preliminary project completion for Federal lead, State lead, and responsible party RA.

3.4.2.1 Inspecting Parties

The prefinal inspection will be led by the agency that has primary responsibility for construction inspection. The other parties involved in the inspection will vary depending upon the lead party for the RA. In general, participants should include all parties from the prefinal construction conference.

3.4.2.2 Extent of Inspection

The prefinal inspection will consist of a walk-through inspection of the entire project site. The RPM and State should inspect the completed site work to determine whether the project is complete and consistent with the contract documents and the EPA approved remedy. Any outstanding construction items discovered doing the inspection should be identified and noted by the RPM and State.

When the RA includes construction of a treatment system, the facility start-up and shakedown shall have been completed as part of the RA. The Contractor shall have certified that the equipment has performed to meet the purpose and intent of the contract specifications. Retesting shall have been successfully completed where deficiencies were revealed. Shakedown may have taken several months. Determination of remedy effectiveness for other types of remedial actions will be addressed on a case-by-case basis.

3.4.2.3 Prefinal Inspection Report

Upon completion of the prefinal inspection, a prefinal inspection report will be prepared and processed in accordance with the following:

RA Lead	Preparer	Submitted to
Federal	USACE	EPA, State
State	State	EPA
Responsible Party	Responsible Party	EPA, State

The prefinal inspection report should outline the outstanding construction items, actions required to resolve items, completion date for these items, and date for final inspection.

3.4.3 Final Inspection and Certification

Upon completion of any outstanding construction items, a final inspection will be conducted for Federal Lead, State lead, and responsible party RA.

3.4.3.1 Inspecting Parties

The final inspection will be led by the agency that has primary responsibility for construction inspection. The other parties will vary depending on the lead party for the RA. In general, participants should include all parties form the prefinal inspection.

3.4.3.2 Extent of Inspection

The final inspection will consist of a walk-through inspection of the project site. The prefinal inspection report will be used as a checklist by the RPM and the State, with the inspection focusing on the outstanding construction items identified in the prefinal inspection. The contractor's demobilization activities should be completed, except for equipment and materials required to complete outstanding construction items, at the time of inspection. The RPM and State will confirm that all outstanding items have been resolved. If any items are still unresolved, the inspection shall be considered a prefinal inspection requiring another prefinal inspection report.

3.4.3.3 Remedial Action Report

Upon satisfactory completion of the final inspection, a remedial action report will be prepared and processed in accordance with Section 3.4.2.3 and submitted within 60 days after final inspection. The RA report will include the following elements:

- Brief description of outstanding construction items from the prefinal inspection and an indication that the items were resolved
- Synopsis of the work defined in the SOW and certification that this work was performed
- Explanation of any modifications to work in the SOW and why these were necessary for the project
- Certification that the remedy is operational and functional
- Documentation necessary to support deletion of the site from the NPL.

For a responsible party RA, the document of settlement may specify different final inspection/certification conditions.

3.4.4 Acceptance of Completed Project

The remedial action report will be reviewed by the RPM for State lead RA and by the RPM and State for Federal lead and responsible party RA. If the RPM or RPM/State are satisfied that the remedy is complete and performing adequately, the Regional Administrator shall provide written notice to the appropriate party of EPA's acceptance of the completed project.

3.5 Site Closeout

After acceptance of the completed RA by EPA, site closeout activities need to be conducted for Fund-financed and responsible party projects.

3.5.1 Deletion of Site from NPL

The EPA Region can recommend deletion of a site from the NPL after completion of a RA, if one of the following deletion criteria has been met:

- EPA, in consultation with the State, has determined that responsible parties have completed all appropriate response actions

- EPA, in consultation with the State, has determined that all appropriate Fund-financed response actions have been completed and that no further cleanup by responsible parties is appropriate.

For detailed information on the criteria and mechanism used to delete sites from the NPL, the RPM should refer to the EPA memorandum entitled "Interim Procedures for Deleting Sites from National Priorities List." Final procedures for NPL deletion are under development.

3.5.2 Operation and Maintenance

In most instances, there is a requirement for some degree of regular operation and maintenance activity associated with the completed remedial action.

3.5.2.1 Operation and Maintenance Assumption

The date certified in the remedial action report that the project is complete and the remedy is operational and functional, is the date when O&M commences.

For Fund lead projects, this is the date the State assumes operational responsibility for O&M. If necessary, the RPM and State must either amend the existing CA or develop a new CA covering O&M cost sharing. This CA should be processed as soon as reliable cost estimates for O&M are available, and need not wait until final project completion. For responsible party projects, this is the date the responsible party assumes O&M responsibility.

3.5.2.2 Operation and Maintenance Report

At the completion of Fund financed O&M activities, the State shall prepare and submit to EPA an O&M report. This report will include the following elements:

- Description of O&M activities performed
- Results of site monitoring, indicating that the remedy meets the performance criteria
- Explanation of additional operation and maintenance (including monitoring) to be undertaken at the site.

For responsible party O&M, the document of settlement may specify different O&M conditions.

APPENDIX A

SAMPLE USACE WORK ASSIGNMENTS AND INTERAGENCY AGREEMENTS

SAMPLE NO. 1
IAG FOR
FIRST PHASE DESIGN WORK

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US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

INTERAGENCY AGREEMENT/AMENDMENT
Part I — GENERAL INFORMATION

1. IAG Identification Number	2. Funding Location by Region
	*
3. Type of Action	**4. Program Abbreviation**
New Agreement	*

5. Name and Address of EPA Organization
*

6. Name and Address of Other Agency
Department of Defense
U.S. Army Corps of Engineers (USACE)
Engineering Division, Missouri River
Omaha, Nebraska 68101-0103

7. Project Title
First Phase Design Work - FY 1985

8. EPA Project Officer *(Name, Address, Telephone Number)*
*

9. Other Agency Project Officer *(Name, Address, Telephone Number)*
William Mulligan FTS/864-7227
USACE, Engineering Division, Missouri River
P. O. Box 103, Downtown Station
Omaha, Nebraska 68101-0103

10. Project Period
10/01/84 - 09/30/85

11. Budget Period
10/01/84 - 09/30/85

12. Scope of Work *(Attach additional sheets, as needed)*

This agreement obligates no more than $ * and generally no more than $7,000 per project to the USACE to initiate the selection of Architectural/Engineering firms for the engineering design phase of Federal lead remedial action projects. The USACE will perform all action necessary to retain an A/E firm for engineering design, including the following:

Phase I -

- Synopsize requirement in Commerce Business Daily
- Designate A/E pre-selection and selection boards
- Develop A/E pre-selection list
- Contact A/E firms to ascertain interest in project
- Approve A/E selection list
- Tentatively select A/E firm

13. Statutory Authority for both Transfer of Funds and Project Activities
CERCLA, E.O. 12316 & the Economy Act of 1932, as amended (31USC1535)

14. Other Agency Type
Federal

FUNDS	PREVIOUS AMOUNT	AMOUNT THIS ACTION	AMENDED TOTAL
15. EPA Amount		*	
16. EPA In-Kind Amount			
17. Other Agency Amount			
18. Other Agency In-Kind Amount			
19. Total Project Cost		*	

20. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No	Account Number	Object Class	Obligation/Deobligation Amt
TFAY9A	85	68/20X8145	*	*	25.76	*

EPA Form 1610-1 (Rev. 8-84) Previous editions are obsolete

PART II — APPROVED BUDGET	IAG IDENTIFICATION NO
21. Budget Categories	Total Itemization of Estimated Cost to Date
(a) Personnel	$
(b) Fringe Benefits	
(c) Travel	
(d) Equipment	
(e) Supplies	
(f) Procurement/Assistance	
(g) Construction	
(h) Other	
(i) Total Direct Charges	$ Breakdown not available.
(j) Indirect Costs: Rate $ Base 0	Will be provided as part of
(k) Total (EPA Share 100 %) (Other Agency Share 0 %)	request for reimbursement. $ *

22. Is equipment authorized to be furnished by EPA or acquired with EPA funds? ☐ Yes ☒ No
(Identify all equipment costing $1,000 or more)

23. Are any of these funds being used on extramural agreements? ☐ Yes ☒ No *(See item 21)*
☐ Grant, ☐ Cooperative Agreement, or ☐ Procurement

Contactor/Recipient Name *(if known)*	Total Extramural Amount Under This Project	Percent Funded by EPA *(if known)*

PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS

24. ☒ Disbursement Agreement.

☒ Reimbursement — Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268
☒ Monthly ☐ Quarterly ☐ Upon Completion of Work

☐ Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinati, OH 45268.

☐ Allocation Transfer — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters.

25. ☐ Reimbursement Agreement

Other Agency's IAG Identification Number	Billing Instructions and Frequency
Billing Address	

PART IV — ACCEPTANCE CONDITIONS	IAG IDENTIFICATION NO.

26. General Conditions:

The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.

27. Special Conditions:

Work assignments for A/E selection will be initiated via a letter signed by the * or his designee. The letter will identify the particular site, provide the necessary account numbers, and describe any adjustments, including increases in the site dollar ceiling ($7,000) and/or changes to the scope of work.

The USACE will initiate Phase I actions upon receipt of EPA authorization. Phase II actions will not begin until EPA has notified the USACE of the selection and approval of a remedy and EPA approval of an Interagency Agreement for Phase II actions.

EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action.

(See Attachment A)

Part V — OFFER AND ACCEPTANCE

NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment.

2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office *(for administrative/management assistance)*	EPA Program Office *(for technical assistance)*
28. Organization/Address *	29. Organization/Address *

Decision Official on Behalf of the Environmental Protection Agency		
30. Signature	Typed Name and Title *	Date
Action Official on Behalf of the Environmental Protection Agency		
31. Signature	Typed Name and Title *	Date
Authorizing Official on Behalf of the Other Agency		
32. Signature	Typed Name and Title	Date

ATTACHMENT A

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site-specific accounts and documentation of the following:

- Employee hours and salary (timesheets)
- Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- Receipts for materials, equipment, and supplies
- Any other costs not included in the above categories

In order to assist in the development and prosecution of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site-specific costs and copies of the back-up documentation which supports those costs. EPA and DOJ may periodically request updates of the costs and documentation after the initial request. The USACE will provide EPA with a contact for obtaining such site-specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

USACE will provide access to its files concerning the project on an on-going basis for EPA and DOJ examination to assist in cost recovery. As original documents may be requested for cost recovery actions, USAGE will provide EPA and DOJ access to the original documentation when requested. USACE will notify EPA in advance of placing any project files in storage or archives.

Reimbursement is contingent upon receipt and approval by EPA of monthly progress and financial reports by site, containing an accounting of funds and status of activities.

The USACE will provide a letter report summarizing each A/E selection to the Regional Technical Project Officer.

Mr. William Mulligan
U.S. Army Corps of Engineers
Engineering Division, Missouri River
P. O. Box 103, Downtown Station
Omaha, Nebraska 68101-0103

Dear Mr. Mulligan:

This letter serves to initiate a work assignment for the U. S. Army Corps of Engineers (USACE) to select an architectural/engineering firm to design the remedial action at the following superfund site:

_____

The selected activities must be consistent with the Interagency Agreement No. DW96******-01-0 between the USACE and the Environmental Protection Agency (EPA). Funding for costs incurred while providing these services to EPA, authorized under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), is not expected to exceed:

$_____

Enclosed is the Phase I Design Authorization Form. This document contains the necessary account numbers that apply specifically to this work assignment. These numbers must be used on all financial and management reports.

Sincerely yours,

_____
(Title)

Enclosure

cc: Richard Ruhe
Noel Urban
Paul Nadeau
Ivery Jacobs

AUTHORIZATION FORM FOR PHASE I DESIGN

AUTHORIZATION IS HEREBY GIVEN TO INITIATE THE FIRST PHASE OF DESIGN WORK AS DESCRIBED IN IAG # DW96930***-01-0. THE FOLLOWING INFORMATION IS PROVIDED FOR COST TRACKING PURPOSES:

SITE NAME _____

REGION _____

EPA SITE I.D. # _____

HQ TECHNICAL PROJECT OFFICER _____ PHONE

REGIONAL SITE MANAGER _____ PHONE

PERIOD OF PERFORMANCE _____ FROM TO

ACCOUNTING INFORMATION

	DOCUMENT CONTROL NO.	IAG NO.	SUPERFUND ACCOUNT NO.	OBJECT CLASS CODE	NOT TO EXCEED AMOUNT
DEOBLIGATE FROM:	* * * * * *	D W 9 6 * * * * * * 0 1 0	5 T F A * * * N	0 0 2 5 7 6	$ * * * * *
OBLIGATE TO:	* * * * * *	D W 9 6 * * * * * * 0 1 0	5 T F A * * * N	* * 2 5 7 6	$ * * * * *

_____ _____
(Title) DATE

_____ _____
EPA PROJECT OFFICER DATE

_____ _____
(individual who certifies funds) DATE

Original to: Richard Ruhe, EPA
Cincinnati, OH

cc: William Mulligan, USACE

Noel Urban, USACE

Paul Nadeau, EPA

Ivery Jacobs, EPA, Room 3623M
Financial Reports and Analysis Branch

SAMPLE NO. 2

IAG FOR

DESIGN OF REMEDIAL ACTION

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

INTERAGENCY AGREEMENT/AMENDMENT
Part I — GENERAL INFORMATION

1. IAG Identification Number	2. Funding Location by Region
3. Type of Action: New Agreement	4. Program Abbreviation: *

5. Name and Address of EPA Organization	6. Name and Address of Other Agency
*	Department of Defense U.S. Army Corps of Engineers (USACE) Engineering Division, Missouri River Omaha, Nebraska 68101-0103

7. Project Title
Remedial action at _____ *

8. EPA Project Officer (Name, Address, Telephone Number)	9. Other Agency Project Officer (Name, Address, Telephone Number)
*	William Mulligan FTS/864-7227 USACE, Engineering Division, Missouri River P. O. Box 103, Downtown Station Omaha, Nebraska 68101-0103

10. Project Period	11. Budget Period
*	* (same as project period)

12. Scope of Work (Attach additional sheets, as needed)

This agreement obligates a total of $ * to the U.S. Army Corps of Engineers (USACE) for implementation of the remedial action at * * (EPA ID# *).
divided as follows:

1. $_____ for implementation of the remedial action.

2. $_____ for supervision and execution of the contract awarded based on the Invitation for Bid (IFB). Specific USACE responsibilities are detailed in the appended Scope of Work (Attachment A).

13. Statutory Authority for both Transfer of Funds and Project Activities	14. Other Agency Type
CERCLA, E.O. 12316 & Economy Act of 1932, as amended (31USC1535)	Federal

FUNDS	PREVIOUS AMOUNT	AMOUNT THIS ACTION	AMENDED TOTAL
15. EPA Amount		*	
16. EPA In-Kind Amount			
17. Other Agency Amount			
18. Other Agency In-Kind Amount			
19. Total Project Cost		*	

20. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No.	Account Number	Object Class	Obligation/ Deobligation Amt
TFAY9A	85	68/20X8145	*	*	25.76	*

EPA Form 1810-1 (Rev. 8-84) Previous editions are obsolete

PART II — APPROVED BUDGET	IAG IDENTIFICATION NO.
21. Budget Categories	Total Itemization of Estimated Cost to Date
(a) Personnel	$
(b) Fringe Benefits	
(c) Travel	
(d) Equipment	
(e) Supplies	
(f) Procurement/Assistance	
(g) Construction	
(h) Other	
(i) Total Direct Charges	$ (Breakdown not available. Will be provided prior to reimbursement.)
(j) Indirect Costs Rate $ Base	
(k) Total (EPA Share 100 %) (Other Agency Share 0 %)	$ *

22. Is equipment authorized to be furnished by EPA or acquired with EPA funds? ☐ Yes ☒ No
(Identify all equipment costing $1,000 or more)

23. Are any of these funds being used on extramural agreements? ☒ Yes ☐ No *(See Item 21f)*
☐ Grant, ☐ Cooperative Agreement, or ☒ Procurement

Contractor / Recipient Name *(if known)*	Total Extramural Amount Under This Project	Percent Funded by EPA *(if known)*
Unknown	* (estimate)	100%

PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS

24. ☒ Disbursement Agreement

☒ Reimbursement — Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St Clair, Cincinnati, OH 45268
☒ Monthly ☐ Quarterly ☐ Upon Completion of Work

☐ Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work shall be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268

☐ Allocation Transfer — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters

25. ☐ Reimbursement Agreement

Other Agency's IAG Identification Number	Billing Instructions and Frequency
Billing Address	

PART IV — ACCEPTANCE CONDITIONS	IAG IDENTIFICATION NO

26. General Conditions:

The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.

27. Special Conditions:

Reimbursement is contingent upon receipt and approval by EPA of the monthly progress reports from USACE described below and any other reports described in the appended scope of work. The monthly progress reports will be submitted to (Regional P.O.) in EPA Region ____, ____, ____, and (Hq P.O.) in EPA, Washington, D.C.

EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action.

(See Attachment A)

Part V — OFFER AND ACCEPTANCE

NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment.

2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office (for administrative/management assistance)	EPA Program Office (for technical assistance)
28. Organization/Address	29. Organization/Address
*	*

Decision Official on Behalf of the Environmental Protection Agency Program Office		
30. Signature	Typed Name and Title *	Date

Action Official on Behalf of the Environmental Protection Agency		
31. Signature	Typed Name and Title *	Date

Authorizing Official on Behalf of the Other Agency		
32. Signature	Typed Name and Title	Date

REMEDIAL DESIGN
Scope of Work

SITE [Name, City, State]

PURPOSE

The purpose of this assignment is to obtain assistance from the U.S. Army Corps of Engineers (USACE) for the design of a remedial action at the [site name].

BACKGROUND

[Briefly summarize the site in 1 or 2 paragraphs to include]

- o [Location of site]
- o [Brief history of operations, releases, response actions, etc.]
- o [Quantity, types, and concentrations of hazardous substances]
- o [Extent of contamination]

A Record of Decision (ROD) was signed by the [AA-OSWER or RA] on [date] selecting [description of remedy] as the cost effective remedy for the [site name].

REMEDY

The remedy selected by EPA and the State of [state name] includes the following components:

[List major components in bullet form]

WORK STATEMENT

The USACE will be responsible for:

1. Developing the technical statement of work and awarding and managing a contract to a private firm for the design of [description of remedy]. The design package will consist of the plans and specifications along with [include as necessary -O&M Plan, QAPP, Site Safety Plan, etc.).

2. Review of the design package in coordination with the EPA-RPM at approximately 30%, 60% (if necessary), 95%, and 100% completion. Approval and acceptance of final design, with concurrence from EPA.

3. Providing other support to include [permit assistance, community relations assistance, etc.].

4. Reproducing design documents.

Specific USACE responsibilities are detailed in the Superfund Remedial Design and Remedial Action Guidance.

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site-specific accounts and documentation of the following:

- Employee hours and salary (timesheets)
- Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- Receipts for materials, equipment, and supplies
- Contract costs (paid invoices, treasury schedules and copy of the contract)
- Any other costs not included in the above categories

In order to assist in the development and prosecution of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site-specific costs and copies of the back-up documentation which supports those costs. EPA and DOJ may periodically request updates of the costs and documentation after the initial request. The USACE will provide EPA with a contact for obtaining such site specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

USACE will provide access to its files concerning the project on an on-going basis for EPA and DOJ examination to assist in cost recovery. As original documents may be requested for cost recovery actions, USACE will provide EPA and DOJ access to the original documentation when requested. USACE will notify EPA in advance of placing any project files in storage or archives.

Reporting requirments are as follows:

The USACE will provide the EPA with a completed signed SF 1080 and monthly reports containing:

a. USACE estimate of the percentage of project completed.

b. USACE estimate of dollars expended on the project to date.

c. Summaries of all change orders and claims made on the contract during the reporting period. Attach copies of all change orders as appendix.

d. Summaries of all contracts with representatives of the local community, public interest groups or State government during the reporting period.

e. Summaries of all problems or potential problems encountered during the reporting period.

f. Projected work for the next reporting period.

SAMPLE NO. 3

IAG FOR

IMPLEMENTATION OF REMEDIAL ACTION

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

INTERAGENCY AGREEMENT/AMENDMENT
Part I — GENERAL INFORMATION

1. IAG Identification Number	2. Funding Location by Region: *
3. Type of Action: New Agreement	4. Program Abbreviation: *

5. Name and Address of EPA Organization
*

6. Name and Address of Other Agency
Department of Defense
U.S. Army Corps of Engineers (USACE)
Engineering Division, Missouri River
Omaha, Nebraska 68101-0103

7. Project Title
Design of remedial action at *

8. EPA Project Officer *(Name, Address, Telephone Number)*
*

9. Other Agency Project Officer *(Name, Address, Telephone Number)*
William Mulligan FTS/864-7227
USACE, Engineering Division, Missouri River
P. O. Box 103, Downtown Station
Omaha, Nebraska 68101-0103

10. Project Period
*

11. Budget Period
* (same as project period)

12. Scope of Work *(Attach additional sheets, as needed)*

This Interagency Agreement obligates a total of $* to the U.S. Army Corps of Engineers (USACE) for the design of remedial action at * * (ID# *). These funds are divided as follows:

1. $* for a contract to design the remedial action.

2. $* for supervision and execution of the contract. Specific USACE responsibilities are detailed in the appended Scope of Work (Attachment A).

13. Statutory Authority for both Transfer of Funds and Project Activities
CERCLA, E.O. 12316 & Economy Act of 1932, as amended (31USC1535)

14. Other Agency Type
Federal

FUNDS	PREVIOUS AMOUNT	AMOUNT THIS ACTION	AMENDED TOTAL
15. EPA Amount		*	
16. EPA In-Kind Amount			
17. Other Agency Amount			
18. Other Agency In-Kind Amount			
19. Total Project Cost		*	

20. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No	Account Number	Object Class	Obligation/Deobligation Amt
TFAY9A	85	68/20X8145	*	*	25.76	*

EPA Form 1610-1 (Rev. 8-84) Previous editions are obsolete

PART II — APPROVED BUDGET	IAG IDENTIFICATION NO.
21. Budget Categories	Total Itemization of Estimated Cost to Date
(a) Personnel	$
(b) Fringe Benefits	
(c) Travel	
(d) Equipment	
(e) Supplies	
(f) Procurement/Assistance	
(g) Construction	
(h) Other	
(i) Total Direct Charges	$ (Breakdown not available.
(j) Indirect Costs Rate $ Base	Will be provided prior to
(k) Total (EPA Share 100 %) (Other Agency Share 0 %)	reimbursement.) $ *

22. Is equipment authorized to be furnished by EPA or acquired with EPA funds? ☐ Yes ☒ No
(Identify all equipment costing $1,000 or more)

23. Are any of these funds being used on extramural agreements? ☒ Yes ☐ No *(See Item 21f)*
☐ Grant, ☐ Cooperative Agreement, or ☒ Procurement

Contactor/Recipient Name *(if known)*	Total Extramural Amount Under This Project	Percent Funded by EPA *(if known)*
Unknown	* (Estimate)	100

PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS

24 ☒ Disbursement Agreement

☒ Reimbursement — Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St Clair, Cincinnati, OH 45268.
☒ Monthly ☐ Quarterly ☐ Upon Completion of Work

☐ Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinati, OH 45268.

☐ Allocation Transfer — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters.

25 ☐ Reimbursement Agreement

Other Agency's IAG Identification Number	Billing Instructions and Frequency
Billing Address	

PART IV — ACCEPTANCE CONDITIONS	IAG IDENTIFICATION NO

28. General Conditions:

The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.

27. Special Conditions:

Reimbursement is contingent upon receipt and approval by EPA of the monthly progress and financial reports from the USACE described below and any other reports described in the appended scope of work. The monthly progress reports will be submitted to (Regional P.O.) in EPA Region ,(city) , (state) , and (Hq P.O.) in EPA, Washington, D.C.

EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action.

(See Attachment B)

Part V — OFFER AND ACCEPTANCE

NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment.

2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office *(for administrative/management assistance)*	EPA Program Office *(for technical assistance)*
28. Organization/Address *	29. Organization/Address *

Decision Official on Behalf of the Environmental Protection Agency Program Office		
30. Signature	Typed Name and Title *	Date
Action Official on Behalf of the Environmental Protection Agency		
31. Signature	Typed Name and Title *	Date
Authorizing Official on Behalf of the Other Agency		
32. Signature	Typed Name and Title	Date

REMEDIAL ACTION

Scope of Work

SITE [Name, City, State]

PURPOSE

The purpose of this assignment is to obtain assistance from the U.S. Army Corps of Engineers (USACE) for the implementation of a remedial action at the [site name].

BACKGROUND

[Briefly summarize the site in 1 or 2 paragraphs to include]

- o [Location of site]
- o [Brief history of operations, releases, response actions, etc.]
- o [Quantity, types, and concentrations of hazardous substances]
- o [Extent of contamination]

A Record of Decision (ROD) was signed by the [AA-OSWER or RA] on [date] selecting [description of remedy] as the cost effective remedy for the [site name].

The remedial design (RD) for the remedy was performed by the [USACE or other party].

REMEDY

The remedy selected by EPA and the State of [state name], and detailed in the IFB includes the following components:

[List major components in bullet form]

WORK STATEMENT

The USACE will be responsible for:

1. Conducting procurement activities for remedial action.
2. Managing the contract for remedial action.
3. Providing oversight and monitoring of construction in coordination with the EPA-RPM, to ensure compliance with all contract requirements.
4. Conducting final inspection and certification of completed remedial action in coordination with the EPA-RPM.

Specific USACE responsibilities are detailed in the Superfund Remedial Design and Remedial Action Guidance.

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site-specific accounts and documentation of the following:

- Employee hours and salary (timesheets)
- Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- Receipts for materials, equipment, and supplies
- Contract costs (paid invoices, treasury schedules and copy of the contract)
- Any other costs not included in the above categories

In order to assist in the development and prosecution of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site-specific costs and copies of the back-up documentation which supports those costs. EPA and DOJ may periodically request updates of the costs and documentation after the initial request. The USACE will provide EPA with a contact for obtaining such site specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

USACE will provide access to its files concerning the project on an on-going basis for EPA and DOJ examination to assist in cost recovery. As original documents may be requested for cost recovery actions, USACE will provide EPA and DOJ access to the original documentation when requested. USACE will notify EPA in advance of placing any project files in storage or archives.

Reporting requirments are as follows:

The USACE will provide the EPA with the following reports:

1. A completed signed SF 1080.
2. A monthly progress report containing:
   a. USACE estimate of the percentage of project completed.
   b. USACE estimate of dollars expended on the project to date.
   c. Summaries of all change orders and claims made on the contract during the reporting period. Attach copies of all change orders as appendix.

d. Summaries of all contacts with representatives of the local community, public interest groups of State government during the reporting period.

e. Summaries of all problems or potential problems encountered during the reporting period.

f. Projected work for the next reporting period.

3. Weekly telecon construction status update(s) to *_____, EPA, Region ___.

APPENDIX B
ELEMENTS TO BE INCLUDED
IN THE REMEDIAL DESIGN STATEMENT OF WORK

The objective of this Appendix is to provide guidance and clarification of submission requirements for the Architect/Engineer (A/E) retained to provide the final document package, which shall include all the required plans and specifications, in response to the statement of work (SOW) issued for a remedial design project.

B.1 Plans and Specifications

The final construction plans and specifications prepared by the A/E to accomplish the remedial action proposed in the SOW shall be required to comply to certain standards and submissions as outlined herein.

B.1.1 Preliminary Design

Submission of the preliminary construction plans and specifications shall reflect the A/E design effort at 30% completion. At this stage the A/E shall have field verified the existing conditions of the site. The preliminary design shall reflect a level of effort such that the technical requirements of the project have been addressed and outlined so that they may be reviewed to determine if the final design will provide an operable and usable remedial project. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the project. The initiation of construction drawings by the A/E shall reflect organization and clarity. The scope of the technical specifications shall be outlined in a manner reflecting the final specifications. The A/E shall include with the preliminary submission design calculations reflecting the same percentage of completion as the designs they support.

B.1.2 Intermediate Design

Complex project design may necessitate review of the design documents between the preliminary and the prefinal/final design. At the discretion of the design PO, a design review may be required at 60% completion of the project. The intermediate design submittal should include the same elements as the prefinal design.

B.1.3 Prefinal/Final Design

The prefinal/final construction plans and specification submission shall reflect 90% and 100% completion as outlined herein.

At 90% completion of design and after all checking and coordinating have been completed by the A/E, prints shall be furnished to the design PO for review purposes. Marked prints and/or written comments will be returned to the A/E for correction of tracings. After corrections have been incorporated, the A/E shall furnish new prints of the corrected sheets and the original tracings. The A/E shall also return all the marked-up prints as evidence that the plans have been completely checked.

Final specifications shall be submitted by the A/E for review when the overall project is approximately 90% complete. After making any necessary corrections, the typed original specifications shall be sent to the design PO with the complete design.

The design analysis and design calculations will be furnished for review of prefinal design. After making any corrections required, reproducible sheets shall be submitted.

B.1.4 Estimated Cost of Project

An estimate and estimate summary sheet will be required with prefinal design submittal (90 percent) and the final bid estimate. One copy of the quantity take off sheets, including the appropriate items, i.e., treatment equipment, linear feet of piping, linear feet of wells, quantity of

hazardous waste to be removed, etc., will be included with each estimate submitted. All work items (mobilization, excavating, transportation of hazardous waste, disposal costs, site containment/rehabilitation, etc.) will be broken down into labor, material and plant. The A/E shall provide basis for development of all unit prices used in the estimate. Unit prices, overhead, and profit, and other such categories shall be shown as separate items. The final (bid) estimate will be based on the advertised plans and specifications including amendments. It will include any changes made by the design PO during final design review, and should reflect current prices for labor, material, and equipment. The final estimate must fit the specifications bid form and be submitted to arrive not later than 15 days prior to the scheduled opening of bids.

B.1.5 Correlating Plans and Specifications

General correlation between drawings and technical specifications, is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, the A/E shall: (1) Coordinate and cross-check the bid form, specifications and drawings; (2) Complete the proofing of the edited specifications and required cross-checking of all drawings and specifications. These activities shall be completed prior to the 95% prefinal submittal to the design PO.

B.1.6 Selection of Resource Conservation and Recovery Act (RCRA) Facilities

The A/E working in conjunction with the lead design party and the EPA-Region should include a provision in the plans and specifications to solicit information from bidders on proposed off-site disposal facilities in order to evaluate acceptability of proposed facilities. EPA's current policy on "Procedures for Planning and Implementing Off-site Response Actions," dated May 6, 1985, requires the following basic procedures be followed in using off-site facilities:

- Facility must have applicable RCRA permit or interim status, or other applicable permit.

- A RCRA compliance inspection must be conducted at candidate TSD facilities within 6 months of the actual receipt of wastes.

- The TSD facilities must meet the minimum technical requirements of the 1984 RCRA reauthorization, including double liners, as applicable.

- Interim status land disposal facilities must have adequate groundwater monitoring data to assess whether the facility poses a threat to groundwater.

- CERCLA-derived wastes are prohibited from going to an offsite TSD that has significant RCRA violations (Class I or other), or other environmental conditions that affect the satisfactory operation of the facility unless the following conditions are met:

  - Owner or operator has committed through an enforcement agreement to correct the problem prior to contract award and

  - Disposal only occurs at a unit not contributing to the adverse conditions at the facility.

B.1.7 Compliance With the Requirements of Other Environmental Laws

All applicable or relevant and appropriate requirements identified in the ROD/EDD shall be analyzed and incorporated into the design by the A/E. Specific A/E responsibility shall include identifing the following: (1) The permitting authority(ies); (2) Construction/operating permits required; (3) Time required by the permitting agency(ies) to process the applications(s); (4) Fee schedule including filing/application fees, emissions fees, certification testing, etc; (5) Monitoring and/or compliance testing requirements; and (6) Actual agency regulations governing applications, exemptions, variances, etc.

At the design PO's discretion the A/E may obtain all required applications forms, complete all technical sections, and provide the partially completed forms to the design PO. The A/E shall notify the design PO of any major discrepancies existing between the A/E SOW and the pollution abatement criteria. Copies of all correspondence from permitting agencies which either details permit requirements or indicates that no permits are necessary, shall be furnished to the design PO by the A/E.

B.1.8 Equipment Start-up and Operator Training

The A/E shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operation of the treatment systems, and appropriate operational procedures training once the startup has been successfully accomplished.

B.2 Additional Studies

Remedial actions may require additional studies to supplement the available technical data. At the direction of the PO for any such studies required, the A/E shall furnish all services, including field work as required, materials, supplies, plant, labor, equipment, investigations, studies and superintendence. Sufficient sampling, testing and analyses shall be performed to optimize the required treatment and/or disposal operations and systems. There shall be an initial meeting of all principal personnel involved in the development of the project. The purpose will be to discuss objectives, resources, communication channels, role of personnel involved and orientation of the site, etc. The Contractor shall submit an interim report for the purposes of review when he is approximately 90% complete with the testing. The interim report shall present the results of the testing with the recommended treatment or disposal system (including options). The report shall include economic analyses of the various alternatives. A review conference shall be scheduled after the interim report has been reviewed by all interested parties. The final report of the

testing shall include all data taken during the testing, a recommendation for a facility to most efficiently provide the treatment or disposal system and a cost estimate of such a facility.

B.3 Operation & Maintenance Plan

Remedial actions vary greatly in scope. However, in most instances, there is a requirement for some degree of regular operation and maintenance activity associated with the completed project. Appropriate elements are listed in Exhibit B-1 and should be used by the A/E as a guide in preparing the site-specific O&M plan. An initial draft O&M Plan shall be submitted by the A/E to the design PO for review and approval with the prefinal design documents. After making necessary corrections, the A/E shall submit the final draft O&M plan with the final design documents. The O&M plan will be finalized and submitted by the Construction contractor at the prefinal construction conference.

B.4 Quality Assurance Project Plan

The A/E shall prepare a site-specific Quality Assurance Project Plan (QAPP). The plan will include a precise description of the project and scope of work. The QAPP must provide guidelines for project organization and responsiblity including identification of quality control and quality assurance responsibilities for the construction contractor, lead design party, and other appropriate agencies during remedial construction. In addition, the QAPP will define quality assurance objectives and other appropriate elements to be included in the plan based on information provided by the design PO. The plan shall later be used as a guide by the contractor to develop a Contractor Quality Control Plan (CQCP) which must be approved by the design PO before Notice to Proceed is given. More specific guidance will be given to the A/E if more specific information or detailed testing procedures are known by the design PO and are considered necessary. A detailed discussion of elements to be included in a State lead QAPP are discussed in Appendix L of the State Manual, Volume I. QAPPs for federal

EXHIBIT B-1

Basic Elements of Operation and Maintenance Plan

A. Description of Normal Operation and Maintenance

1. Description of tasks for operation

2. Description of tasks for maintenance

3. Description of prescribed treatment or operating conditions

4. Schedule showing frequency of each O&M task

B. Description of Potential Operating Problems

1. Description and analysis of potential operating problems

2. Sources of information regarding problems

3. Common remedies

C. Description of Routine Monitoring and Laboratory Testing

1. Description of monitoring tasks

2. Description of required laboratory tests and their interpretation

3. Required QA/QC

4. Schedule of monitoring frequency and when, if so provided, to discontinue.

EXHIBIT B-1 (Cont'd)

D. Description of Alternate O&M

1. Should systems fail, alternate procedures to prevent undue hazard

2. Analysis of vulnerability and additional resource requirements should a failure occur

E. Safety Plan

1. Description of precautions, of necessary equipment, etc., for site personnel

2. Safety tasks required in event of systems failure (May be linked to site safety plan developed during remedial responses)

F. Description of Equipment

1. Equipment Necessary to plan

2. Installation of monitoring components

3. Maintenance of site equipment

4. Replacement schedule for equipment and installed components

G. A/E also shall prepare an O&M annual budget which should include but not be limited to the following:

1. Cost of personnel

EXHIBIT B-1 (Cont'd)

2. Costs of preventive and corrective maintenance

3. Costs of equipment, supplies, etc.

4. Costs of any contractual obligation (e.g., lab expenses)

5. Costs of operation (e.g., energy costs, etc.)

H. Records and Reporting Mechanisms Required

1. Daily Operating Logs

2. Laboratory Records

3. Records for Operating Costs

4. Mechanism for reporting emergencies

5. Personnel and maintenance records

6. Monthly/Annual Reports to State agencies

lead and responsible party projects should be consistent with the guidelines of Appendix L. A draft QAPP shall be submitted by the A/E to the design PO with the prefinal design documents. After making necessary corrections the A/E shall submit the final QAPP with the final design documents.

B.5 Site Safety Plan

An important aspect of this project, both during design and construction, is the health and safety of the individuals who will be on site. The A/E responsible for the design of this project shall review the project information provided and develop specifications for a Site Safety Plan (SSP) that are sufficient to protect on-site personnel from the physical, chemical, and/or biological hazards particular to the site. The specifications will describe the minimum health, safety and emergency response requirements for which the construction contractor will be made responsible, and which must be included in the SSP developed by the contractor. Site Safety Plan guidance, along with sample SSPs, is included in the State Manual, Volume I, and should be used as a guide by the A/E in developing specifications for the SSP. Draft SSP specifications shall be submitted by the A/E to the design PO with the prefinal design documents. After making necessary corrections, the A/E shall submit the final SSP specifications with the final design document.

To ensure consistency with appropriate EPA, OSHA and State health and safety requirements, the following reference list can be used as guidance in developing the SSP.

- CERCLA sections 104(f) and 111(c)(6)
- EPA Order 1440.2 - Health and Safety Requirements for Employees Engaged in Field Activities
- EPA Order 1440.1 - Respiratiory Protection

- EPA Occupational Health and Safety Manual

- EPA Interim Standard Operating Safety Guide (September 1982)

- Part 1910 of 29 CFR revised 1 July 1982, OSHA Standards for General Industry

- NIOSH, (National Institute of Occupational Safety and Health) Manual of Analytical Methods, Volumes I-VII

- Threshold Limit Values (TVL) for Chemical Substances and Physical Agents in the Work Environment with Intented Changes Adopted by ACGIH (American Conference of Governmental Industrial Hygienists), latest edition

- ANSI Z 88.2 - 1980, American National Standard, Practices for Respiratory Protection

- Air Sampling Instruments for Evaluation of Atmospheric Contaminants, 6th edition, 1983, American Conference of Governmental Industrial Hygienists.

- Appropriate State health and safety statutes

B.6 Architect/Engineer Services During Construction

The agency responsible for accomplishing a remedial action may deem it desirable or perhaps even necessary that the A/E preparing the plans and specifications take an active role in the on-site remedial action (construction) work. Following are guidelines for consideration in utilizing A/E services during construction.

B.6.1 Review Construction Contractor Submittals

The A/E shall check all shop drawings and calculations submitted by the Construction Contractor. The A/E is responsible for complete review and check of the construction shop drawings submitted by the Construction contractor for compliance with the requirements of the contract plans and specifications. The preparation of all shop drawings is the responsibility of the Construction Contractor. If submittals are incomplete or are insufficient to perform review, the construction PO shall be notified immediately for instructions. If deficiencies or errors in the plans and specifications become evident in the process of review and checking of the submittals, the A/E shall notify the construction PO who will determine the course of action to be taken.

B.6.2 Attend Conferences and Visit Project Site

The A/E as and when requested in writing by the construction PO, shall furnish technically qualified Architects and/or Engineers to attend conferences and/or visit the project site before or during construction. These services will include writing of reports and/or preparation of required cost estimates upon return to the A/E office.

B.6.3 Provide Field Representative

The A/E shall provide a Field Representative to perform in general the following:

- Advise the contruction PO on engineering interpretation of the Facility plans and specificiations

- Assist the construction PO in interpreting impact on the design of proposed changes and preparing sketches and/or revised drawings in a timely manner to aid in the preparation of construction contract modifications.

- Assist the construction PO and A/E's main office staff in resolving design problems associated with interpretation of contract plans and specifications.

- Document design field changes tht occur during construction.

- Facility start-up testing shake-down

- Operator training

APPENDIX C

LIST OF ACRONYMS

AA	Assistant Administrator
A/E	Architect/Engineer
CA	Cooperative Agreement
CQCP	Contractor Quality Control Plan
CRP	Community Relations Plan
E&D	Engineering and Design
EDD	Enforcement Decision Document
EPA	Environmental Protection Agency
EPA-HQ	EPA Headquarters
FS	Feasibility Study
IAG	Interagency Agreement
MOU	Memorandum of Understanding
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
PO	Project Officer
PRP	Potentially Responsible Party
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act of 1976 (PL-94-580)
RD	Remedial Design
RD/RA	Remedial Design/Remedial Action
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RPM	Regional Project Manager (EPA)
ROD	Record of Decision
S&A	Supervision and Administration
SCAP	Superfund Comprehensive Accomplishments Plan
SSC	Superfund State Contract
SSP	Site Safety Plan

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SOW	Statement of Work
SPO	State Project Officer
TLV	Threshold Limit Value
TSD	Treatment, Storage and Disposal Facility
USACE	U.S. Army Corps of Engineers
USACE-MRD	USACE-Missouri River Division

APPENDIX D

GLOSSARY OF TERMS

This appendix provides definitions of selected terms used throughout the text. It is not intended to be comprehensive in nature; rather, it attempts to highlight some of the terms commonly used in the Superfund remedial program. Statutory definitions have been quoted for those terms defined in CERCLA, while other definitions have been taken from appropriate EPA regulations, guidance, and publications.

Bidability: Refers to the inclusion of all necessary elements and specifications of a design package to enable solicitation and procurement of a construction contractor.

Change Orders: A change order is a written order issued by the State or USACE to its contractor authorizing an addition, deletion, or revision. Change orders are appropriate when the terms of the contract between the recipient and one of its contractors must be altered to make a change in the work within the general scope of the contract as a result of changes in specifications, time, method or manner of performance of the work, services, site or recipient-furnished facilities, equipment or materials.

Such changes must be within the general scope of the contract. The goal of a change order is to leave the contractor in the same relative profit/loss situation it would have encountered under the original contract award. Cardinal changes or changes which substantially alter the scope of the work under the contract may not be appropriate for change order but may require readvertising for new bids or proposals.

Claims: A claim is a request by a contractor for additional time and/or fees that has been rejected by the State or USACE. Rejection of a change order may lead to a contractor claim in which the contractor asserts that, by either action or inaction on the part of the recipient, a change was made in the contract requirements which affected the contract time and/or price and caused the contractor to perform in a manner different form that required by the existing contract. Significant changes which may alter the remedy approved in the ROD require EPA headquarters approval.

Community Relations Plan (CRP): A plan for addressing local citizens' and officials' concerns about a hazardous waste site and for integrating community relations activities into the technical response at a site. The CRP should help prevent disruptions and delays in response actions and partially fulfill the NEPA requirement for public notification and participation. Each CRP should include a description of the background and history of the site and community concerns about the site; objectives of the site-specific community relations program; specific techniques to be used to achieve those objectives; and a work plan, schedule, budget, and designation of staff who will be responsible for the program.

Constructability: Refers to the technical feasibility of a design from an engineering perspective.

Cooperative Agreement (C/A): An assistance agreement whereby EPA transfers money, property, services, or anything of value to a State for the accomplishment of certain remedial activities, subactivities, or tasks, as authorized by CERCLA. It assumes a significant Federal involvement in the State's performance of these activities. The remedial Cooperative Agreement provides general information about the project, such as the approved budget, and any specific conditions applicable to the project. It also documents any required CERCLA section 104(c)(3) assurances.

Deviation Request: An official written request to allow a deviation from EPA's General Regulation for Assistance Programs (40 CFR 30). One example of a situation requiring a deviation request would be the need to incur costs at a site prior to the execution of a Cooperative Agreement.

Enforcement Decision Document (EDD): Refers to the documentation of the Agency's decison-making process for approving remedial actions to be implemented by responsible parties, showing consistency with CERCLA and the NCP and supplementing the feasibility study if necessary.

Engineering and Design (E&D) after Contract Award: E&D after contract award is engineering and design support during the construction/cleanup phase of the project. This support is provided by the design Architect-Engineering or in-house USACE or State personnel and can consist of the following:

- Preparation of design modifications due to design deficiencies, unforeseen site conditions, client request, or changed criteria.

- Site visits and attendance at meetings or conferences.

Federal Lead: Means that the EPA has primary responsibility for planning and conducting either part of or an entire removal or remedial action.

Feasibility Study: A study intended to 1) evaluate alternative remedial actions from a technical, environmental, and cost-effectiveness perspective, 2) recommend the cost-effective remedial action, 3) prepare a cost estimate for budgetary purposes, and a preliminary construction schedule.

Interagency Agreement (IAG): A written agreement, enforceable by law, between EPA and another agency (Federal, State, or local) where goods and/or services are provided, whether or not in exchange for monetary reimbursement, or where policy agreements are delineated. IAGs for CERCLA activities may function both as obligating documents and as reporting documents necessary for EPA financial and program management.

Memorandum of Understanding (MOU): An agreement between EPA and another agency (Federal, State, or local) that sets forth basic policies and procedures governing their relationship on matters of mutual interest and responsibility. There is no exchange of funds under this type of agreement. In the context of this document, an MOU usually refers to one

type of agreement which may be negotiated between EPA and a State to undertake EPA-lead remedial planning subactivities.

National Contingency Plan (NCP) 40 CFR Part 300: Officially known as the National Oil and Hazardous Substances Pollution Contingency Plan, outlines the responsibilities and authorities for responding to releases into the environment of hazardous substances and other pollutants and contaminants under the statutory authority of CERCLA and section 311 of the Clean Water Act (CWA).

National Priority List: A list of the highest priority releases or potential releases of hazardous substances, based upon State and EPA regional submissions of candidate sites and the criteria and methodology contained in the Hazard Ranking System (HRS), in order to allocate funds for remedial and planned removal actions.

Operation and Maintenance (O&M): Refers to the requirement for continued performance of activities, as necessary, at a site after the completion of remedial action or construction to ensure the sustained effectiveness of the applied remedy.

Project Officer (PO): The official designated by the lead party for RD or RA who coordinates, monitors and manages RD or RA activities for the site.

Record of Decision (ROD): Refers to the documentation of the Agency's decision-making process for approving Fund-financed remedial actions, showing consistency with CERCLA and the NCP and supplementing the feasibility study if necessary. The ROD supports future cost recovery actions at the site.

Remedial Action (RA): A subactivity in remedial response involving actual implementation, following design, of the selected source control and/or off-site remedial measure.

Remedial Design (RD): A subactivity in remedial response where the selected remedy is clearly defined and/or specified in accordance with engineering criteria (i.e., a site action plan, a relocation plan, or engineering drawings and specifications) in a bid package, enabling immediate implementation of the remedy.

Remedial Investigation (RI): The portion of a subactivity in remedial response involving an investigation to gather the data necessary to: (a) determine the nature and extent of problems at the site; (b) establish remedial response criteria for the site; (c) identify preliminary alternative remedial actions; and (d) support the technical and cost analyses of the alternatives. (The entire subactivity is known as "remedial investigation/ feasibility study.")

Remedial Project Manager (RPM): The designated EPA Regional official who coordinates, manages, and monitors site activities covered in both EPA and State-lead remedial response agreements.

Remedial Response: A series of activities and subactivities intended to provide permanent resolution of a release or potential release of a hazardous substance from a site. Remedial response generally includes the following sequence of subactivities: remedial investigation/feasibility study, remedial design, remedial action, and operation and maintenance.

Remedy (statutory definition): [An action] consistent with permanent remedy taken ... in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions ... as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances or contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking

containers, collection of leachate and runoff, on-site treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment.

Responsible Party (statutory definition): [Includes] (1) the owner or operator of a vessel (otherwise subject to the jurisdiction of the United States) or a facility, (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of, (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility owned or operated by another party or entity and containing such hazardous substances, and (4) any person who accepts or accepted any hazardous substance for transport to disposal or treatment facilities or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, [the responsible party] shall be liable for -- (A) all costs of removal or remedial action incurred by the United States Government or a State not inconsistent with the National Contingency Plan; (B) any other necessary costs of response incurred by any other person consistent with the National Contingency Plan; and (C) damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release.

Responsible Party Lead: Means a private party (owner, operator) has primary responsibility for planning and conducting a remedial action.

Scope of Work: The element of a Federal lead remedial planning agreement which generally outlines the subactivities, tasks, and subtasks to be undertaken at the site. The scope of work also provides general information on the objectives of the project.

Site (also refers to a hazardous substance site or a hazardous waste site): An area or a location at which hazardous substances have been stored, treated, disposed, placed, or otherwise came to be located. This includes all contiguous land, structures, other appurtenances, and improvements on the land used for treatment, storage, or disposal of hazardous substances. A site may consist of several treatment, storage, or disposal facilities (e.g., impoundments, containers, buildings, or equipment).

State Lead: Means the State has primary responsibility for planning an conducting a remedial action.

State Letter of Request: The letter, sent from the administrator of the State pollution control agency to an EPA Regional Administrator, requesting EPA action at a waste site. A letter of request can initiate only EPA lead remedial planning activities. The letter must refer to and generically approve the required remedial subactivities, agree to participate in implementing the Community Relations Plan, designate a State Project Officer for the project, and state that State officials will meet with EPA personnel to exchange site and project information.

State Project Officer (SPO): The designated State official responsible for direct management of the activities covered in a Cooperative Agreement or for ensuring that the State carries out responsibilities defined in an EPA lead remedial response agreement.

Statement of Work (SOW): The element of a remedial response agreement that specifies in detail the subactivities, tasks, subtasks, and objectives to be performed pursuant to that agreement. The SOW should contain salient points regarding the background of the release or potential release, problem definition, purpose of the work, and a description of the services to be performed.

Stop Work Order: A form prepared by an Ordering Officer, OSC, or Contracting Officer requiring the contractor to stop all, or any part, of the work called for in a Delivery Order.

Superfund State Contract (SSC): A bilateral contract between EPA and a State that is legally binding on both parties. The SSC is not a procurement contract, but is used to document EPA and State responsibilities and to obtain any necessary State assurances for EPA-managed remedial responses. An SSC is appropriate for any EPA lead remedial implementation subactivities which require State cost-sharing.

Supervision and Administration (S&A): S&A consists of supervision and administration of the construction/clean up contract. This is primarily accomplished by USACE or State in-house personnel, but assistance from the design Architect/Engineer may be required. Specifically S&A includes the following:

- Contract Administration
- Site inspection and construction management performed by on-site personnel
- Shop drawing review
- Preparation of as-built drawings reflecting final completed project conditions.